

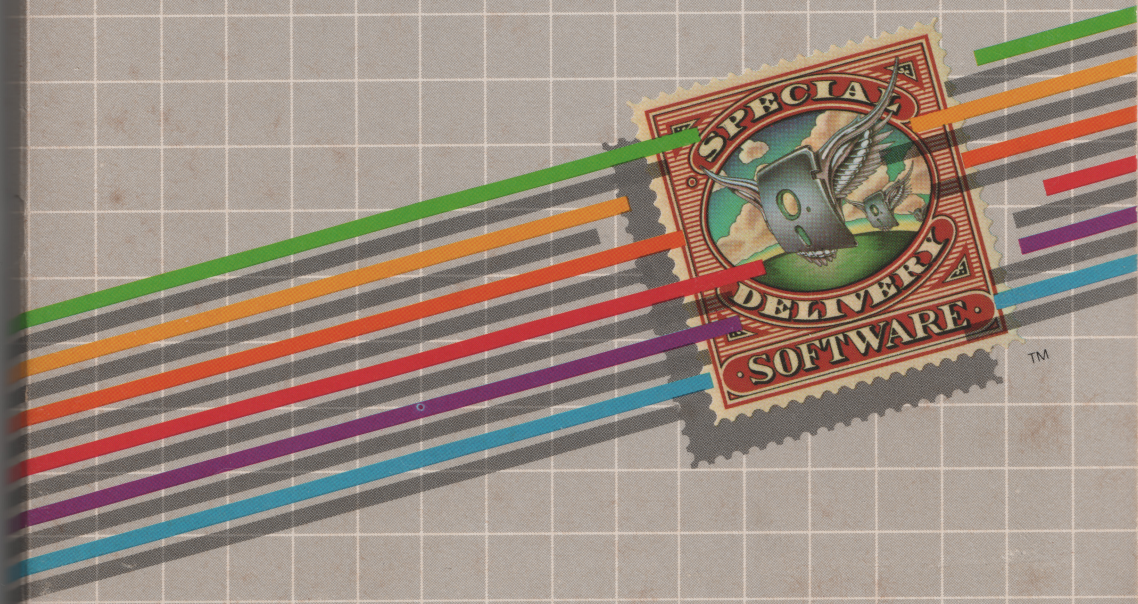
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DIET ANALYSIS

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In Conjunction with Apple Computer Inc.

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DIET ANALYSIS

INTRODUCTION

The DIET ANALYSIS PROGRAM is a remarkably sophisticated and unique program for the microcomputer. Written for the APPLE II, it is designed to use your microcomputer's full capabilities to give you an accurate analysis of your diet.

With a pencil and paper you can spend hours trying to figure out your daily dietary intake of even a few basic components, such as calories, carbohydrates and proteins. You will probably need to search through quite a few books in order to find the information you need. This program gives you the capability of getting the same information in a matter of minutes. Not only that, it keeps the results of the analysis for you in a file for review at a later date.

This program is designed to analyze your food for its content of 24 different components. The components checked include calories, carbohydrate, protein, cholesterol, total fats, saturated fats, unsaturated fats and fiber. The vitamins checked include vitamins A, B1, B2, B6, folic acid, niacin, pantothenic acid, B12, C, and E. Also checked are the amounts of iron, calcium, magnesium, phosphorus, sodium and potassium.

Foods are entered by name at the keyboard. The amounts are entered in the commonly used measures. The program is family-oriented, accommodating up to 10 members. Food entry is completely flexible. It is possible to make the entry after each meal, snack or whatever- no need to write anything down for batch entry unless that happens to be more convenient. The analysis is by the day. After the last item ingested has been entered for the day, a simple routine will take each item, determine its composition, add up the totals for the day and store the results in the person's own file along with the date.

The results can be viewed singly for each day. Averages for a whole week, month or any number of days (up to 30) can be determined and compared with any other group of days. Calories can be seen in relation to a person's weight. Program contains routines to determine the ideal weight from the height and the frame size.

What you need

To use this program, you will need an APPLE II Plus (or an APPLE II with APPLESOFT in ROM) with 48k of memory, a video monitor and at least 1 disk drive with DOS version 3.3. We will show you a little later how you can adapt the program to run on 1 or 2 disk drives yourself.

In addition to the above hardware, you also need the two software diskettes which are included in this package. One of these is marked

'MASTER PROGRAMS'. This diskette, in addition to containing the programs, as the name suggests, will also store the results of your analysis, once you start entering your foods. The second diskette, marked 'COMPOSITION', contains the food composition data on almost 700 items.

An Important Message

The program was originally designed to check the quantities of carbohydrates, proteins, fats, and the fiber content of the food. It performs this job accurately. The analysis of vitamins and minerals, however, has been added for completeness and general interest only. Although the data fed into the computer has been taken from the most current and reliable sources available at the time of the publication of the program, newer and more elaborate testing methods are constantly changing our knowledge of the composition of foods. Thus, when a vitamin or mineral is shown to be absent in a certain food, it means that it was either reported to be undetectable or was detected in only trace amounts. It is also possible that the said element had not been tested for yet. Later more elaborate testing may well show its presence. That is why it would be very unwise for you to decide to self-prescribe any minerals or vitamins without the help of your physician. Use of certain minerals, such as iron, calcium and potassium in a medicinal form without proper medical guidance can have serious and damaging consequences. Similarly, an excessive use of certain vitamins especially vitamins A and D can cause serious illness. The sole purpose of this program, therefore, is the clerical job of gathering the composition of the foods you enter at the keyboard, and to make the results available to you when you wish to see them. It is not designed to be a tool for self-diagnosis and cannot advise you of any corrective action you need to take. For that you must seek the help of a qualified person, perhaps your dietician or your doctor.

How the Program Works

How the program works is disarmingly simple. You enter your foods at the keyboard during the course of the day. In the evening or whenever you decide that you have eaten all you are going to for the day, you put a certain program into action. This program, appropriately called the 'DAYS END' routine, will take each of your food entries, determine its composition and add up all the results for the day. The results are then placed in your file which can be viewed right then or anytime in the future.

After you have entered your foods for a 15 day period, the program will automatically add up all your data, divide the totals by 15 to get your average daily intake. It will then open a separate 'averages file' under your name and store the results in it. This will be done after every

15 days of food entry. Each time the results are placed in a different record of your 'averages file', so that you are able to examine your average daily intake of nutrients, and compare the results from one 15 day period to another.

During the first 30 days of food entry all your daily results are kept intact. After the 30th day, however, the storage process starts from record no. 1 again. This means that on any given day you can examine the results of the past 30 days of food entry. Of course if you have not been entering the foods daily, then the 30 day period of food entry may span a much longer period of time. To put it in another way, you have a total of 30 records, one for each day's results. When the 30th record gets filled, the storage process starts from record 1 again, the results of day 31 replacing those of day 1 and so on. The results of the 15 day averages, on the other hand, are kept permanently.

While the program is making averages of the past 15 days of food entry, it also takes your entire data, entered from day 1, and determines your average intake from the beginning. This result is stored in another file along with the date on which this master average was done. This result, the results of the 15 day averages, and the daily results, among other things, can all be viewed using the SEE DATA routine.

The program also accepts your weight, height, and physical activity data, which can and should be entered as often as every day of food entry, thus allowing you to see your weight, calories and physical activity data side by side, that is, if you care to see it.

Program Structure

An overview

The programs are contained on the diskette marked 'MASTER PROGRAMS', which also holds the results of your analysis. The diskette marked 'COMPOSITION' has the food composition records. The following is a brief description of the various choices available from the master menu.

1. 'NAME ENTRY' - This module serves as the initial introductory medium for the persons using the program. It accepts their names, dates of birth, and the height and weight data and opens the appropriate files for each participant. A subroutine determines what that person's ideal weight should be.

2. 'FOOD ENTRY' - This is the heart of the program. While the new entry module above will be used only one time for each person, the food entry module is to be used 'THREE TIMES A DAY AFTER MEALS'. It accepts food items by name, asks for the amount consumed and stands ready to help in converting the food measures. The entered items are placed in an entry file under that date.

3. 'DAYS END' - This module takes each person's entered food items from the entry file one by one, looks up their composition, adds up the totals for the entire day, and stores the results in that person's own file along with the date. Each person's entries are dealt with one by one. When the entry file is empty, it is deleted to be replaced by another the next day.

4. 'SEE DATA' - This module shows you the results in more than one way. The data is kept in a 'circular file'. After the 30th day, the storage process starts in record 1 again. At any given time individual daily results are available for the previous 30 days of food entry (these do not have to be consecutive, I.E., day 1 may have been entered 3 months earlier).

Earlier data is kept indefinitely (storage space permitting) in the 'AVERAGES FILE'. Every 15 days of food entry, the data is averaged out and the results stored in this file. At the same time the entire data is added up, averaged out and results stored in another area. The 'see data' module allows all this data to be viewed.

5. 'WEIGHT UPDATE' - This program lets you update your weight as often as every day of food entry. Other items updated are the height and the physical activity.

6. 'CURRENT STATUS' - It displays the current food entry status of every one of the participants.

7. 'CASUAL ANALYSIS' - Ordinarily the program analyzes the foods of the participants and stores the results in their respective files. This routine allows a person who is not a regular participant, to analyze his or her diet without having to open a file for them. It is ideal for the friends and neighbors.

8. 'UTILITIES' - Module offers some file deletion capabilities. But the extraordinary feature is the establishment of the customized quickmode routine which is used in the food entry program. This makes the food entry process easier and faster.

GETTING STARTED

You do not need to know much about the inner workings of computers to be able to use this program. If you are a complete novice it would be helpful for you to study the first few chapters of the DOS 3.3 manual. You should know how to 'boot' the system, or at least know what it means. The following instructions assume this basic knowledge.

1. Boot the system with the diskette marked 'MASTER PROGRAMS', which from

now on will be called the 'program diskette'. You simply insert the program diskette in the drive and turn the computer and the monitor on. If your APPLE has the autostart ROM, the disk drive would start running as soon as you turn the computer on. Consult your manual if you do not know how to boot.

2. After a few seconds you will see the copyright notices followed by the message

THIS PROGRAM CAN BE ADAPTED FOR USE
WITH EITHER 1 OR 2 DISK DRIVES

NUMBER OF DRIVES IN YOUR SYSTEM >?

Enter 1 if you have only one disk drive. If later on you acquire another drive, you can very easily change the program for it to run on 2 drives without any loss of data. Enter 2 if you have more than one drives. As soon as you press the return key after entering the number, you will see the disk drive running again. The number of drives you entered has now become a part of the program. You will never be asked this question again.

The program will assume the number of drives you entered, until you change it (see UTILITIES).

3. The screen will then present the MASTER MENU. From now on, every time you boot the system with the program diskette, you will see this menu (Figure 1).

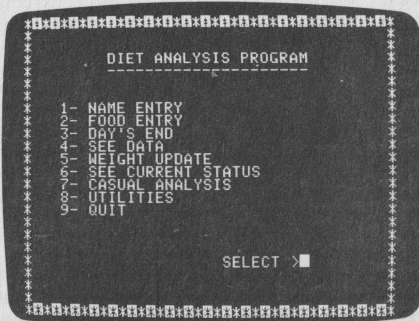


Figure 1

4. The only option which is operative right now is option 1 - NAME ENTRY.(apart from option 9 - QUIT). You may want to try the other options to see what happens.

5. As you choose option 1 and press return, you will see the message:

LIKE A PRACTICE SESSION (Y/N) >"

As it says at the bottom of the screen, this offer, if declined, is not made again. If you accept it by typing 'Y' then you have the chance to familiarize yourself with the main features of the program.

A Little Practice Session

The practice session is in fact a simple tiptoe through the two main routines of the program and is only possible before the actual program is started. We strongly recommend that you use this option. This practice routine can be used as many times as you desire.

The two programs that you will see during the practice session are the 'NAME ENTRY routine' and the 'FOOD ENTRY routine'. Both of these require a good deal of user input. You will also see a little bit of the 'DAYS END' routine.

It is important that you learn to have a 'conversation' with the program. This session will help you do that. Although the practice session per se can only be used before the actual program is run, you could use the 'CASUAL ANALYSIS' routine for practice any time later on since it is very similar to the practice routine.

Name Entry Routine

The first program in the practice session is the name entry program. Its function is to get the name, age, sex and other important data on every participant and open appropriate permanent files. In the practice session, however, nothing gets recorded, thus giving you complete freedom to make errors and try out various responses. The screen display will momentarily have a request for you to

STANDBY FOR PROGRAM LOAD

Let it be said once and for all that, whenever you see that message or, for that matter, whenever the disk is running, you should keep your hands off of the keyboard and especially away from that little key in the right upper hand corner, marked 'reset'.

```

NEW ENTRY
===
FIRST NAME > █
LAST NAME > .....
SEX (M/F) >
WEIGHT- LBS >
HEIGHT-INCHES >
BIRTH DATE-M/D/Y >
FRAME SIZE-S/M/L >
ACTIVITY-L/M/H >
TODAY'S DATE >

```

Figure 2

The screen shows all the items that you need to answer. The cursor appears in front of each item in turn, prompting you for a proper response. Answer each item by typing your response followed by the return key. As you do that, the cursor as well as the dotted line will move to the next item. The purpose of the line is not (only) to make you type straight, but to give you an idea of how long a response is permitted. Each dot represents 1 character.

Certain characters are not permitted for certain items. E.G. commas, colons and quotes are not allowed. The program will give you a beep and expect you to retype the character.

1. Type your first name and press return.

NOTE:

If you press return without entering a single character, the program will assume that you are finished with this routine. It will, however, give you another chance and ask you:

ARE YOU FINISHED (Y/N) >?

This gives you a chance to get back to the routine.

*** ALL QUESTIONS IN THIS PROGRAM WHICH REQUIRE A YES OR NO ANSWER, MUST BE ANSWERED WITH A SIMPLE Y OR N AS THE CASE MAY BE.

2. Type the next response and keep going for each prompt.
3. Only one dot appears when cursor is in front of the word "sex".

Answer it by typing M or F.

4. Similarly, type your weight in pounds and height in inches. (5 feet is 60 inches, 6 feet is 72 inches).

5. All dates in the program must be entered by typing the month numbers first (01=Jan., 02=Feb., 03=Mar., 04=Apr., 05=May, 06=June, 07=July, 08=Aug., 09=Sept., 10=Oct., 11=Nov., 12=Dec.) followed by the day number (such as 02, 03, 11, etc.), followed by the last two digits of the year (such as 80, 81, 82, etc.). The slash marks will appear automatically.

6. The entry of frame size and activity is also important. Frame size can be small (S), medium (M), or large (L). Similarly, the physical activity needs to be estimated between light (L), medium (M), or heavy (H).

7. Finally, enter today's date in the same format as the birth date. As you press return the following question will appear at the bottom of the screen:

ANY CHANGES>?

8. Before you answer it look over your responses for any errors. Let's suppose you do have an error. Answer 'Y'. The cursor will jump to the first name. If the error is not there simply press 'return' and your previous response will stay intact. The cursor will jump to the next line. When you reach the item you wish to change simply type the correct response over that line.

NOTE: YOU CANNOT USE THE FORWARD ARROW KEY FOR THE CORRECTIONS. YOU MUST TYPE THE LINE OVER AGAIN. HOWEVER, THE BACKWARDS ARROW KEY WORKS FINE FOR DELETIONS ON THE LINE YOU ARE CURRENTLY CHANGING.

9. When satisfied that the entry is correct answer 'N' to "ANY CHANGES>?"

After a momentary pause the computer will show you some of the data you have just entered (see Figure 3). If you are over 16, it will also show what your ideal weight should be along with the upper and lower limits of your ideal weight range.

Since the height and weight figures change rather rapidly in children, especially in the early teens, it is difficult to give reliable data on ideal weights under 16 in a program of this type.

In the actual program entry some of this information will become a permanent part of your record for later comparisons. In the practice session, however, all this data is discarded as you answer the question at the bottom of the screen one way or the other.

10. Answer 'Y' to "ANOTHER ANALYSIS>?"

The entry routine will start over. This time try entering wrong or inappropriate answers.

```

CURRENT STATE OF AFFAIRS
=====

CURRENT AGE > 30 YEARS
CURRENT WEIGHT > 165 POUNDS

DESIRABLE WEIGHT RANGE :
    LOW = 154 POUNDS
    IDEAL = 161 POUNDS
    HIGH = 168 POUNDS

YOU ARE THEREFORE :
    WITHIN YOUR IDEAL WEIGHT RANGE
    YOU HANDSOME DEVIL YOU

SHOULD I OPEN A FILE FOR YOU (Y/N) >?

```

Figure 3

Apart from rejecting some wrong responses as you type them at the keyboard the program is also designed to ponder them after you have answered all of the questions. If it detects an inappropriate answer the screen display will reappear along with all your responses. The inappropriate answers will be pointed to by arrows (see Figure 4).

```

NEW ENTRY
===

FIRST NAME > JIM
LAST NAME > JOHNSON
SEX (M/F) > M
WEIGHT- LBS > 189
HEIGHT-INCHES > 69
BIRTH DATE-M/D/Y > 020646
FRAME SIZE-S/M/L > 4 <-
ACTIVITY-L/M/H > N <-
TODAY'S DATE > 031481
<ARROWS POINT TO INAPPROPRIATE ENTRIES>
<< PLEASE CHECK AND RE-ENTER >>

```

Figure 4

The first character of each name (first and last name) cannot be a space. The computer will beep to indicate its displeasure. After the first character, however, spaces are permitted, allowing you to enter names such as John Jr. Any spaces at the end of the name will automatically be

discarded.

Try entering 'K' or 'B' etc. for sex, frame size, or activity then answer 'N' to "ANY CHANGES>?". Height and weight figures will be pointed to one time. If they remain uncorrected the second time they will be accepted. Current year cannot be less than 81. Each entry is checked for duplicatin in the actual program but not in the practice program.

When you are through practicing the name entry program press 'return' instead of entering the first name. This will take you to the 'FOOD ENTRY' routine.

Food Entry Routine

When you are through practicing the name entry routine, type N in response to the question

ANOTHER ANALYSIS>?

and press return. Then press return again to go onto the food entry routine. This is the heart and soul of the whole program, and you should spend some time familiarizing yourself with the many features and conveniences that it offers. This is the program with which you will be interacting every day.

ENTERING THE FOOD NAME AT THE KEYBOARD

When the screen display appears, ignore the top line and the three lines at the bottom of the screen for now (see Figure 5).

1. Enter the name of a food. try entering the word 'APPLE'. Then press return,

In a flash, 4 different types of apple products (not the electronic variety) are shown. You will be asked to choose one by number.

2. Choose 80.

Next screen display will show the item you have chosen on the top of the screen. Underneath is a question asking you the amount of the food. In this case it says:

> APPLE-RAW <
HOW MANY APPLES-?

3. Enter a number and press return. There you have it. You have already made one entry.

If you enter more than 9, computer will beep and flash a message:

YOU TYPED --
PRESS RETURN IF ACCURATE
PRESS ESC TO RE-ENTER

This is to safeguard against inadvertently entering too high an amount.

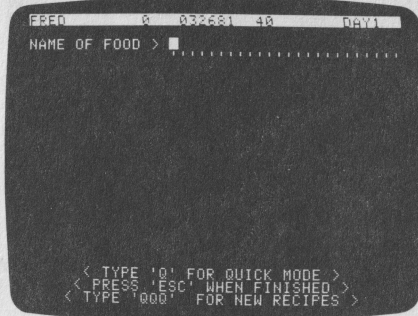


Figure 5

The screen display asking for the name of the next food appears once again. The principles governing the entry of a food name are about the same as those we discussed under the name entry routine earlier. Certain characters are not accepted as you will soon find out by a beep. A space as the first character of the food name results in the entry being discarded. Any spaces after the food name are automatically taken care of.

4. Now type 'apple' again.

This time type a number other than those listed. The computer will beep and warn you of the wrong number. Try a wrong number again. Then enter 80, a right number, and then enter the amount.

5. Next try entering the letter C

You will see a long list. At the bottom of the screen you see two instructions. (FIG 6)

< PRESS SPACE BAR TO TURN THE PAGE >
< PRESS 'ESC' TO MAKE AN ENTRY >

What you are seeing is a list of foods, each with a name starting with the letter C. This powerful routine gives you the capability of reviewing an

entire alphabetic listing (see Figure 6).

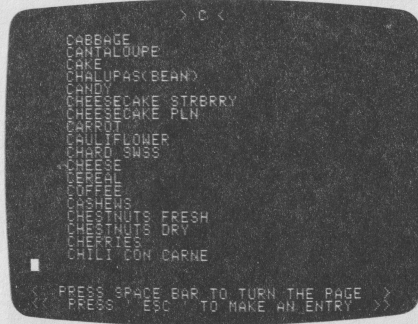


Figure 6

To see the rest of the list press space bar (or any key other than 'esc' and the 'return'). The end of the list is indicated by the message:

THAT IS ALL OF THEM

You can review the list again by pressing the space bar. This will take you back to the first page. You may not want to see the rest of the list if the item you want is already on the screen. Pressing 'esc' allows you to make the entry. You will see the following instruction

ENTER ONE BY NAME >

Since pressing the space bar will keep turning the pages of the same list for you ad nauseam, you may begin to wonder how to get out of it without making a food entry. There are two ways you can do that.

You can press esc. Then when asked to make an entry - just press return.

You can also get out by pressing the return key when you are looking at the last page of the list. Pressing the return key when viewing the other pages works just like pressing the space bar i.e. it will turn the page. Try this a few times.

If you are looking at an alphabetic list, you will notice that you are asked to enter an item by name and not by number. In fact there are no numbers on the screen. The numbers only appear when you enter an item by its full and accurately spelled name, and the item happens to come in more than one variety. This may be a good time to see an example of that. Enter cheese (see Figure 7).

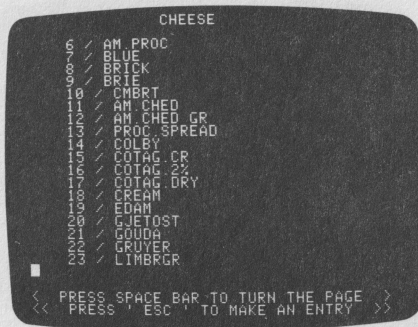


Figure 7

This time as the list appears you will see the numbers on the left side of the screen. Once again, since the list is too long to fit on one page, it can be seen by turning the pages by pressing the space bar. The end of the list is indicated by the line

THAT IS ALL OF THEM

On pressing 'esc', you will be invited to make an entry, but by number. You will only get a protest if you try to enter a name. You can go back to page one by pressing space bar or you can cancel the list and move on by simply pressing return.

Once again if you see your item on page one, don't forget to press esc before trying to type the number. Otherwise you will find yourself looking at page two. Press space to get back to page one.

Next let us try a few other items. Enter coffee. No list is presented. Instead you are asked

HOW MANY CUPS-?

MEASURE CONVERSION:

6. Enter butter.

Underneath the request for the amount, you will be given the option to use the automatic conversion routine by typing 999.

7. Type 999. A choice of 3 or 4 other measures will be given (Figure 8).

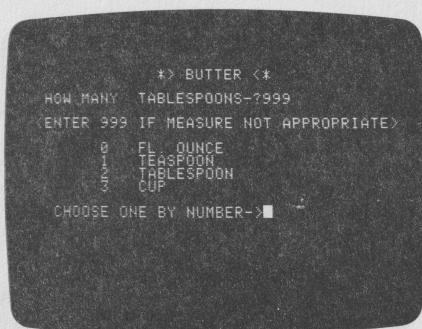


Figure 8

8. Choose one of the measures by number. You will then be asked how much of the measure of your choice. Enter the amount. The computer will automatically convert the measure you have in mind into the measure in which that particular food is stored in the APPLE.

Some nuances of this routine are not readily visible. A cup of milk on conversion equals 240 grams while a cup of breakfast cereals may weigh only 25 grams. The importance of taking this into account is obvious.

The conversion option is only offered for items which can be converted automatically. In general, foods measured in 'servings', 'portion', 'slices' etc will need to be converted manually.

9. Enter bread. When you see the list, choose 430 'white enriched'.

10. Now try entering 999 when asked how many slices.

You will be asked to do the conversion manually. The computer uses an average or medium slice. If for some reason you want to enter grams or ounces of bread, you need to determine how many slices this would make and enter that figure. The ALPHABETIC LIST OF FOODS in APPENDIX B also gives the measure in which most foods are stored as well as the weight (in grams) of the that measure.

A WORD ABOUT FOOD NAMES:

Great care and effort has gone into the choice of the food names, but these may not exactly match your terminology. Once you become familiar with the program you will immediately know where a certain item is. A number of the common items are entered under more than one heading.

As you can readily appreciate, there are a lot of limitations placed on the choice of food names. Microcomputers have limited memory capacity. Food names occupy a tremendous amount of space. Abbreviations have been

used, hopefully without sacrificing clarity. A complete alphabetic list of food names has been given in APPENDIX B. It should be consulted if you are having difficulty finding a certain food.

Some food names are traditionally used in the plural such as beans or peas. Others tend to sound better in the singular e.g. banana, orange. The same type of subjective judgement has been used in the selection of food names. If in doubt, enter the singular form. You will be offered the plural form and asked to re-enter.

11. Now try misspelling a food name. enter 'appal'. Since the computer was unable to find the entry, it will come back and tell you so.

12. Earlier we showed you how you can obtain an alphabetic listing by typing a letter. You can do the same thing with a group of letters. For example, type 'ap'. Now you are shown all foods starting with the 2 characters 'ap'. This gives you the capability of finding foods if you know the first few characters of the name without knowing how to spell the entire name.

Enter 'chees'. If you had entered the complete word cheese, you would have seen the list of all the cheeses. however, since the name you entered is not complete, the computer offers you all the names starting with the characters 'chees'.

For convenience in typing, if the list is less than 5 items, you are given the choice of typing over the name by using the right arrow key. This spares you the effort of having to type the whole name. Simply press return if your choice is not under the blinking cursor. The cursor moves on to the next item. If you discard the last item, the screen display returns to the original food entry display.

Do not give up if a certain food is not seen under your favorite heading. T-bone is under steak, not meat or beef. it is going to take some time and patience to learn where a certain food is.

Do not be deceived by the shortness of the alphabetic listing. Each of these foods have many sublistings, e.g. there is only one listing for cheese under 'C', but there are 32 types of cheese. This is true of the majority of the foods.

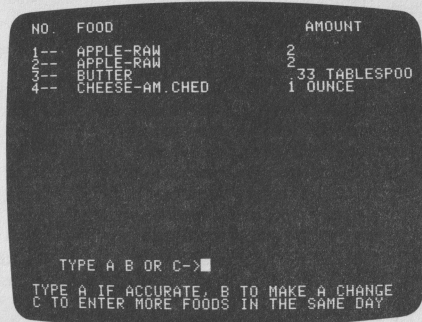
Spend some time practicing the food entry. When finished, direct your attention to the three lines at the bottom of the screen.

```
<TYPE 'Q' FOR QUICKMODE>
<PRESS ESC WHEN FINISHED>
<TYPE 'QQ' FOR NEW RECIPES>
```

REVIEWING FOODS ALREADY ENTERED:

Now that we have entered a few foods, we can review what has been

entered. You can do that by pressing 'esc' key. The screen display changes to what is shown in Figure 9.



NO.	FOOD	AMOUNT
1--	APPLE-RAW	2
2--	APPLE-RAW	2
3--	BUTTER	33 TABLESPOON
4--	CHEESE-AM. CHED	1 OUNCE

TYPE A B OR C->■

TYPE A IF ACCURATE, B TO MAKE A CHANGE
C TO ENTER MORE FOODS IN THE SAME DAY

Figure 9

The list shows all your food entries in the order in which they were entered, along with their amounts. The numbers on the left indicate the numerical order. The names have been shortened a bit to fit on the screen.

You now have 3 options:

<<< DO NOT TYPE 'A' JUST YET SO YOU CAN EXAMINE ALL THE OTHER FEATURES >>>

C - Typing C will take you back to the food entry routine. Any new foods you enter will be added to the ones already in the list. If you have already entered 40 foods, pressing C will give you a beep, indicating that the file is full.

B - If you notice an item in the list that should not be there. Or perhaps the amount looks inaccurate to you. This option lets you delete such an item. Type B and press return. At the bottom of the screen you will see the question

WHICH ITEM ? - ENTER BY NUMBER=>

The number you enter is the one shown on the left of the item in question. As you enter it and press return, you will be advised of the item deleted.

As you press space you will see the list of the foods again, but without the item which you have just deleted.

A - If the list is accurate and you have no more foods to enter, you can type A and press return. Your food entries will be deposited into the entry file. In this practice session, the program will then automatically go on to the next phase, the analysis of the items you entered.

If your food list had more than 14 items, then as soon as you press either A, B or C, it will turn the page so you can see the rest of the entries. When the last page has been seen, then typing these letters will have the effect described above.

A LOOK AT THE OTHER CONVENIENCES:

To examine the rest of the features of this routine, go back to the food entry by typing 'C' followed by return. (If you disobeyed and typed 'A' you are probably already in the next routine 'DAYS END'. If so, skip the next few lines and go on to the paragraph titled 'differences between 1 and 2 disk drives'. You can reexamine this routine by starting over when finished)

RECIPE OPTION:

This is a very useful and convenient routine which allows you to enter the non-standard or homemade items with ease.

- A. To enter the recipe mode, type 'QQQ' and press return.
- B. Enter the number of servings obtained from the recipe.
- C. Then enter the number that you consumed.

After this, the rest of the entry is the same except that, when asked to enter the amount of each food, you enter the total amount used in the recipe. As an example, let's say the recipe called for a cup of flour, and yielded four servings, of which you ate only one. Now it is obvious that you consumed one quarter cup of flour. But instead of having to do the mathematics in your head or on paper, you simply enter 4 for 'number of servings', 1 for the 'servings you ate', and then enter 1 cup for flour. The amounts will be automatically adjusted.

When all ingredients of your recipe have been entered, type 'END' for the ingredient name. You will go back to the normal food entry routine.

Then press 'ESC' and look over the list. Recipe items are asterisked in the list. Check out the amounts of these items. See if the conversion has been done properly.

QUICKMODE:

Once again go back to the food entry routine and type Q (followed by return). Screen changes to the quickmode entry format.

A. Choose the breakfast option by typing 1.

The quickmode file for breakfast will be loaded and you will see a few foods listed. (maximum 18)

B. Enter your selection at the bottom of the screen.

C. Enter the amount when asked.

You can enter as many selections as you wish without any further search for items. This makes the food entry much easier.

This routine is user defined. In the package you recieved, a few foods are entered under breakfast for illustration. You will be able to replace these by your own list later. A separate program in utilities allows you to build up a file of up to 18 items for each meal. Since the total number of food items a family consumes at each meal is usually quite limited, this routine allows a speedy food entry. The foods must be entered in the measures listed in the right column.

After entering a few foods go back to ordinary food entry routine by pressing return for food number.

Now examine the top line on the screen. (FIG 5) Starting from left it shows the first name of the person whose foods are being entered. If you are in the practice session it will say 'CASUAL AN'. The middle of the line indicates the date for which the entries are being made (in practice session only slash marks are seen). On the left of the date is the number of items already entered, to the right the number that can still be entered. The right end of the line shows the day no. for which foods are being entered for that person.

NOW PRESS 'A'.

This will open a file to receive the food entries. The program from here on behaves differently in actual entry than in the practice session. The program also behaves differently according to whether you have one or two disk drives. The only routine in which the number of disk drives make a difference is the 'DAYS END' routine. So in actual day to day workings, you will not have to contend with the question of disk drives until you run the DAYS END routine.

DIFFERENCES BETWEEN 1 AND 2 DISK DRIVES:

As mentioned above, the only routine in which the number of drives makes a difference is the DAYS END routine. In the 2 drive system, as soon as the DAYS END routine is loaded, you are asked to

INSERT THE 'COMPOSITION DISKETTE' IN DRIVE 2
AND PRESS RETURN

From then on, you do not have to change the diskettes back and forth.

In the 1 drive system, you are asked to remove the 'PROGRAM DISKETTE' and insert the 'COMPOSITION DISKETTE' into the drive at one point, and to perform the reverse procedure at another. Appropriate messages appear on the screen to advise you of this. You must make sure that you insert the correct diskette or you will get a nasty beep and a 'WRONG DISKETTE' message.

Analysis of Food Entries

If yours is a 2 drive system, insert the composition diskette in drive two when asked. Otherwise exchange the diskettes when advised on the screen. From now on, apart from changing the diskettes and pressing various keys when asked, there is not much that you have to do, other than staring at the screen. In a few seconds the food analysis is complete, and you see the results (see Figure 10).

The results are shown on 3 screen pages. Names of most of the items are self-explanatory (see APPENDIX A for more information). The names of the foods that you had entered are on the right. The display shows the amount of each food component along with its measure such as grams (GM), international units (IU), milligrams (MG) and micrograms (MCG). Press space to turn the page.

Pressing ESC will give you the list of foods along with their amounts.

Press return when you are through looking at the data. It will return you to the menu. All the data that you entered in the course of this practice session is deleted and you return with a clean slate.

By now you have seen about one half of what the program does. The purpose of this practice session was to acquaint you with the routines that require extensive user input. A major part of the program is the SEE DATA routine which has not even been touched yet.

Name Entry

This time it is for real.

1. Choose 'NAME ENTRY' option again. You will go into the name entry routine, which should be quite familiar if you did take the practice session. If not, consult the practice session chapter again. There are some important differences.

In the practice session you learned how the program checks for some obvious errors in your responses. Now, the computer will also check your entry against all the previously recorded entries for any duplication in two aspects.

A. Duplication of both the first and the last names.

The check is primarily made to avoid entering the same person twice. Besides, the name of your food composition files is made up of your 'last name'+'first name'. Obviously there would be untold confusion if two people had the same name. Since the program is for use in a family setting, it allows the last names of the participants to be the same as long as the first names are somewhat different. We suggest that you change one of the first names by adding such elements as Jr. or Sr. Or see below.

B. Duplication of the first name only.

You would think that if the last names were different, then there should be no problem even if the first names were the same. Right ? Wrong!! (and there is a good reason for it.) To make life easier for you in the daily routines, the program identifies you by your first name. This saves you the trouble of entering both names every time.

Use nicknames for one or both persons or use initials (either first initial or first name and middle initial together as first name) for one person or you can spell one name slightly differently. Using nicknames is better since it is easier to remember who is who.

Example : Two persons have the name JAMES T. SMITH The first names can be entered as :-

JAMES
JIM
JIMMY
JAMES T

REMEMBER IT IS IMPORTANT TO HAVE DIFFERENT FIRST NAMES. THE LAST NAMES MAY BE THE SAME. The last name may be omitted. This duplication check is done before checking for any errors.

When the entry is error-free and there is no duplication, then you will see the familiar 'current state of affairs' display. The question on the bottom line, however, is different. It asks you if you would like to have a file opened in your name.

If you are less than 16 years of age, no ideal weight figures are offered. The ideal weight is also not figured if your height is outside a certain range. The range is different for men and women.

When you say 'Y', you will find the disk drive recording the information. If you say 'N', the data is discarded and the computer asks if you have another entry. As many as 10 persons can be entered, but see the next paragraph.

DISK STORAGE CAPACITY

The number of days that can be accommodated on the diskette varies with the number of persons using the program. Since the file is used over and over again, only a minimal amount of space is used after the first 30 days of food entry for any one person. The following guidelines assume that every person is entering foods every day regularly. Figures are only approximate.

1 PERSON	:	OVER 1000 DAYS
2 PERSONS	:	600 DAYS EACH
3 PERSONS	:	120 DAYS EACH
OVER 4 PERSONS	:	VARIABLE

The 'CURRENT STATUS' option in the menu gives you an approximate idea of the remaining amount of space on the diskette. Do not store any other programs or files on your program diskette.

Current Status

At this point let us examine a screen display which you will see in the beginning of every routine except the name entry routine and the menu. To see the screen display choose option 6 (SEE CURRENT STATUS) in the master menu and press return.

This display presents a general profile of all entries. The columns in front of your name show only slash marks and zeros right now. Later they will present important data. From left they show.

1. The date of the first food entry.
2. The date of the last food entry.
3. Total number of days entered.
4. Number of averages stored in the averages file.
5. Entry file status.

Entry file is where all the food names and quantities are stored until they are analyzed at the end of the day. The file is then deleted. A '-' indicates no foods have yet been entered for the day for that person. 'I' indicates that the file contains food entries perhaps from 1 or 2 meals but the entry is not yet complete. 'C' indicates that the food entry for the day for that person is complete. This classification is only for general guidance. Further food entries can still be made even if the entry is listed as complete.

The concept of the averages file is more fully explained in the 'see data' section. Suffice it to say here that a '0' means that this file is currently empty.

You will notice that only first names are listed. From now on as far as you are concerned, everything is on a first name basis. Whenever the program needs to know who you are, it will ask for your first name.

Now press space bar to return to menu.

Food Entry

This is the central theme of the entire program. If you took the practice session you should have no problem now. (If you did not, you can still practice food entry by choosing option 7 'casual analysis'. For further information on this, see that chapter.) Proceed further only if you are planning to enter food items into your permanent files because the following program is only for your daily food entry and once launched, is not easily reversed.

First Entry of the day

1. Choose option 2 (FOOD ENTRY)

Unlike the practice session, this time you are asked to enter today's date. Use the same format as previously discussed under 'name entry'. Slash marks between month, day and the year appear automatically. Make sure you enter month first. Numbers less than 10 must have a zero on the left e.g. 02 = FEB.

The date entry is needed only when everyone's entry file is empty. This would be the situation every morning before breakfast. Once a participant has entered the date and then gone ahead with entry of at least one food item then all further entries will be for that date. This saves you the trouble of having to enter the date again and again.

How would you know what date is currently being entered? How do you know if somebody has already entered something? The computer will take care of all these mundane problems. All you have to do is to have an idea of what you want to enter and how much.

2. After entering the date, press return.

After the program is loaded, the screen will display the current status. It will also show the current entry date.

3. Enter your first name.

Since this is your first entry for the day, you will see a message at the bottom of the screen to that effect, and an invitation to press the space bar. Do that and you will get to the food entry routine. From now on things are the same as in the practice session.

When all the foods have been entered, and you have looked over the list of items for accuracy:

4. Type 'A' and press return.

This time your food list will be stored in the entry file. A few seconds later you see the question:

IS THE FOOD ENTRY COMPLETE FOR THE DAY >?

5. If it is, type Y; if not, say N.

Now this question is not under oath, you will not be held to your answer if you do change your mind (e.g.: when you could not resist that cheesecake after the entry was complete). The purpose of the question is simply to be in a position to remind you of your food entry status.

Next you are asked:

ANYONE ELSE TO ENTER FOODS >?

6. Type Y or N

If you say 'Y', you will be back in the current status display. The display, you will notice, has not changed much, except for an 'I' or a 'C' in your entry file, depending upon how you answered item 5 above.

If you answered 'N' then you are presented with the mini-menu. Choose your option. Notice that you can still go back to the food entry if you wish.

The reminder at the top of the screen on The mini-menu display will be dicussed under 'weight update'. If you decide to quit, and are going to use the computer for something else, remember to boot the system with another diskette.

Subsequent Entries for the day

1. Boot with the 'master programs' diskette as usual, then select option 2 in menu. This time, since you already have made entries earlier, you will be advised of this fact.

CURRENTLY ENTRIES ARE BEING MADE FOR (DATE)
DO YOU WISH TO CONTINUE IN THAT DATE

In almost every instance you would be continuing in that same date, so answer 'y'. The food entry routine will be loaded as usual.

2. Enter your first name when asked.

This time, because you have previous entries, the computer would tell you of this fact at the bottom of the screen.

If you can't remember whether you have already entered that milkshake yet or not, you can see what has been entered by pressing 'esc'. If you find your entry is up to date and you have nothing more to enter, then press 'esc' again. You will get back to the current status display. If you do have more entries to make, then press return.

3. Enter your foods as usual.

Any new entries will be added to the previous list, and the new list will show all the entries for the day.

You are encouraged to enter your foods immediately after each meal to avoid forgetting some items. If your entry is not complete by the end of the day, you are very likely to have unreliable results because of omissions.

In fact, if you are at all unsure as to the accuracy of your entries, we suggest that you discard those entries, and start afresh the next day.

Wrong or unreliable results even for one day will ruin the accuracy of your averages for all days to come.

To find out how to discard inaccurate entries for a certain day, before getting the results into your permanent files, see the chapter 'DAYS END'.

Weight Update

'If you don'tell us, we won't know'

This little routine allows you to enter your weight, height and physical activity level into your files as often as every day. The updated figures are kept in a temporary 'scratch pad' file and only included into your own files the next day you have a food entry. In other words, updating these figures is meaningless unless each update is followed by a day of food entry.

The food entry program assumes that your current weight is the one recorded in your 'scratch pad' file and uses it to include in that day's entry. It is up to you to keep this 'scratch pad' file up to date.

1. Select item 5 (WEIGHT UPDATE) from the master menu.

Instead of the usual current status display, you will see a different screen format showing the date of last weight update of each participant.

2. Enter your first name when asked.

3. You will be shown your current height, weight and physical activity status along with the date they were last updated.

4. Enter today's date

It does not serve any purpose to backtrack and enter an earlier date. Entering a date earlier than your last food entry is useless and is rejected.

5. Then enter your data. The height is not expected to be changed in a grownup, so press return and the old figure will be kept.

6. The new figures are displayed after the update is complete.

The above is the voluntary way of updating your weight etc. When you do the next routine the 'days end', you will be asked to do a weight update if you wish. See below for details.

Day's End Procedure

'When you are through eating for the day.'

Unlike the practice session, where the analysis was automatic and you were presented the results after the meal entry, the procedure from now on is going to be different. The analysis is not done until all your entries for the day are complete. Once you know that you have consumed all you are going to for the day, you simply put a routine into action which will take each and every one of your foods, determine its composition, total up the results for the day and store these into your own file along with the date of the food entry. This routine is called the 'DAYS END' routine.

The participants can do their 'days end' routines at their own convenience. In other words, everyone's food entries do not have to be complete for one person to do his or her 'DAYS END' routine. However, no one can start the next day's entries until everyone has finished the previous day and done the days end routine.

DAY'S END PROCEDURE (ONE DISK DRIVE)

1. From menu select option 3 (days end)

This routine will not run if the entry file is empty. Before the program is loaded, you will be presented a screen display showing the date of the last weight update. When the DAYS END routine runs, it takes your last entered height, weight and physical activity data, and enters them into that days file. That file is then closed. Therefore if you have changed your weight, this is the last chance to update it so that it will get into today's file. Otherwise it will be included in the next days file.

IF NONE OF THE PARTICIPANTS WISH TO UPDATE their weight, then answer N and the DAYS END program will start loading.

2. Type your name when the current status display appears.
3. A few seconds later you will be asked to remove the master programs diskette from the drive and replace it with the composition diskette.
4. After the disks are exchanged, press return and then sit back.

The computer will gather your food composition and when finished its additions and multiplications, will present you the results for the day. The data is on three pages. Press space bar to see the other two. Page two has the vitamins, page three the minerals. The foods you entered are listed on the right. To see the amounts also, press 'esc'. When you are through examining, press return. You will be asked to keep your hands off

the computer once again.

5. After your data is appropriately placed in your files, the computer looks at everyone else's entry file.

As long as someone else's entry file has food entries, whether complete or incomplete, the program will return you to the current status display, expecting that the other entries will be processed next.

6. If so, then enter the next person's name. If no one else is ready yet, then simply press return. You will be asked if you are through. Type Y or N

7. If, after processing one entry, the program found the rest of the entry file empty, it will not go back to the current status display. Instead, it advises you that the file is now empty and asks if you are through. Type Y or N.

If you typed 'Y' to the question in 6 or 7 above, then the computer asks you to remove the composition diskette from drive one and re-insert the master programs diskette so it can update everyone's files. This, done it presents the mini-menu.

If you typed 'N' in answer to the above question, then you find yourself looking at the current status display. To back off, press return. You will notice that now your display shows the appropriate dates and the entry files are now listed as empty.

If you enter your name for 'DAYS END' routine, and your entry file is empty, then the program advises you of this.

If your entry file is listed as incomplete, then you are advised of that. If in fact you have no other foods to enter, then you have the option to go ahead and process your entry 'as is'.

During the 'DAYS END' routine, your composition is shown to you only for your interest and information. This saves you the trouble of loading the SEE DATA program to see the day's results.

*** IMPORTANT NOTE ***

Since an inaccurate entry for even a single day is going to destroy the value of your 'AVERAGE INTAKE READINGS', we strongly recommend that you do not store inaccurate results into your permanent file. If you have entered a few foods for a day, but for some reason were unable to complete that entry, do the following to destroy your incomplete entry:

A. Do not do the days end routine on your entries.

(The 'DAYS END' routine can still be done on persons whose entries are complete for the day.)

B. The next day, on starting the food entry, simply answer 'N' when asked if you want to continue in the same date.

(REMEMBER: THE COMPUTER IS GOING TO ASSUME THAT YOU ARE STILL MAKING ENTRIES FOR THE PREVIOUS DAY BECAUSE THE ENTRY FILE HAS AN INCOMPLETE ENTRY-YOURS.)

C. Answer 'Y' when asked if you wish to destroy the previous day's entries. (Make sure that yours is the only entry listed there because all entries which have not been processed by 'DAYS END' routine, complete or incomplete, will be deleted.)

The entry can also be discarded during the Days End routine. When your food have been analyzed and the composition display is shown, you see 3 lines at the bottom, one of which advises you to press ESC to examine your foods. If you find any errors, either in the food entries or the composition, press ESC to get the list of foods and then press ESC again. This will discard your entries, leaving everyone else's intact.

See Data

'What you see is what you ate!'

This routine lets you look at your results in more ways than one.

How results are kept

Your daily results are kept in a file which can hold data for 30 days. These 30 days do not have to be consecutive. If you are not entering every day, even though that is what is recommended for best results, your 30 days of data may be spread over any length of time.

The file is literally a 'circular file'. Once the 30th day is reached, the subsequent data storage starts in day 1 again. Thus at any given time you have the data for the previous 30 daily entries.

What happens to the data from days earlier than the 30 day period? It is not wasted. Every 15th day of food entry, the program will take the data for the previous 15 days, total up the figures and determine the averages. It then stores these averages in your 'AVERAGES FILE' where it stays permanently (or until the disk develops leaks).

In addition to your dietary composition data, the daily files also have a record of your height, weight and activity for the day. In fact you are encouraged to enter your height, weight and activity every day if you like (see WEIGHT UPDATE) but it is not mandatory.

How to see your data

1. Select Item 4 (SEE DATA) from the MASTER MENU.

After the program is loaded you will see the CURRENT STATUS display.

2. Enter your name when asked.

Depending upon the number of days of food entry, it will take from 6 to 36 seconds to get your data together. Then you will be presented with the options available to examine the results.

OPTION 1: Allows you to examine the daily records one by one, in a format very similar to the one you saw in the 'DAYS END' routine. All you need to do is specify the date you wish to see the data for. Since your dates of food entry may not be continuous, the computer helps you by printing a list of all the dates for which you have the data (maximum 30) and asks you for a choice.

Each date has a number to the left of it. Choose the date you wish to see by that number. Unlike the 'DAYS END' routine where you saw the food names listed in the right hand column, here that column shows you your daily requirements for each of the components. The requirements are for your age and sex and are only shown if you are over 10 years of age. They also do not take into account such factors as pregnancy, lactation and other special circumstances. THEY ARE SHOWN FOR INTEREST ONLY AND ARE NOT TO SUGGEST ANY SELF-PRESCRIPTION. FOR THAT YOU MUST CONSULT YOUR PHYSICIAN. They carry no more weight than what you can find in any a book on nutrition.

OPTION 2: Allows you to see the data for more than one day (maximum 5) listed all at one time on the screen. This allows comparisons between consecutive days. The extreme right column shows the averages for the days displayed in the other 5 columns. The component names are abbreviated but their order is the same. (See APPENDIX A for details.) The days examined must be numbered consecutively.

OPTION 3: Lets you examine the averages for different periods of time. When you choose this, you will see another display with 3 choices.

CHOICE 1 - Shows you the average of all your entries from day one up to and including the date listed on the screen under choice 1. This file remains empty until at least 15 days of food entry have been completed. Until then, the screen display shows no date under Choice 1 (only slash marks are seen).

CHOICE 2 - Simply allows you to examine the averages that the computer has been calculating every 15 days. The results are stored in the averages file. Up to 5 averaged results can be displayed at one time. Averages file is empty until at least 15 days have been entered.

CHOICE 3 - Is simple. You tell the computer to take the results from more than one day and determine the average. You indicate this by picking the day to start from and the day to end at. Since the display this time can show more than one result (maximum 5) at once, you are able to compare the averages from one group of days to another. You can, e.g., examine your average intake for the 1st week vs. the 2nd week vs. the 3rd week etc. Since this requires a lot of arithmetic, it takes a little time to flash you the results.

OPTION 4: Consists of 2 displays.

DISPLAY 1 - Is a summary report of your data. It allows you to see the weight you started with, the weight you currently have, what your ideal weight should be and then a daily itemization of your caloric intake VS your weight and activity. This may spread over more than one page. The daily weight records go back 30 days. Your current weight is your weight on the day of your last food analysis. (But also see WEIGHT UPDATE BELOW) The ideal weight and the range of ideal weight figures are not shown if you were under 16 at the time when you joined the program or your height is outside a certain range.

DISPLAY 2 - Is a personal status report on you. The items listed are self explanatory.

OPTION 5: Lets you get back to the current status display.

Casual Analysis

This routine has been included for the benefit of your neighbors and friends, and people you do not have a file on. A very useful application will be to check the composition of various recipes.

It works exactly like your practice session. The two programs accessible via this routine are the 'NAME ENTRY' routine (to check someone's ideal weight) and the 'FOOD ENTRY' routine.

Utilities

Select Item 8 from the Master Menu. Utilities routine has its own menu.

OPTION 1: This routine will delete a person's name and data from all the files, as if he or she had never been entered. To prevent accidental deletion, a passkey phrase is needed. Type :

DELETE MY NAME

when requested to. This will show you the current status display. Enter the name of the person (poor soul) who is going to be eliminated, press return and then sit back. It can take as long as 2 minutes if there are a number of people on file.

OPTION 2: This routine will delete everyone's food data files. It preserves the data you entered via the new entry program. To prevent accidental deletion of your data, the program requires you to enter the 'passkey' phrase :

'DELETE ALL DATA FILES'

May we suggest that you do not tell your children about it.

OPTION 3: If only one person has messed up his files, this routine will delete his data files so he could start over. The familiar current status display is shown. Enter your name if you are sure that you want to proceed. Then press return. No other warning is given.

OPTION 4: This allows you to change the number of disk drives the program is adapted to work with. Changing the number has no effect on your data files. They remain intact.

OPTION 5: This routine allows you to establish a QUICKMODE FILE for each of the four main meals, and makes your life a lot easier at the time of the food entry. It is based on the observation that the foods which a family consumes at each meal show little, if any, variation from day to day. If you have been using the program for a few days, you have probably found yourself entering the same foods day in and day out. You may even have wished that you had a quicker way to make the entries. This routine should help.

Here is how it works. You make a list of the foods which your family likes to eat at each meal. Then, using this routine, you enter these into a file which remains on your MASTER PROGRAMS diskette.

During the 'FOOD ENTRY' you call the QUICKMODE routine for the appropriate meal, and use it to enter your items quickly.

We suggest that before proceeding with the establishment of the

quickmode files, you use the program without it for a few days. This will give you a chance to get acquainted with the 'character' of the program. You will also learn which foods you are entering most often for a given meal.

1. Before you start the program, jot down the family's favorite foods for the meal in question.

2. Choose option 5 in the UTILITIES menu.

The program takes a little while to load. When you see the display with the four meals listed, then:

3. Select one of the meals

The rest of the routine is similar to the food entry, except that you are not asked about the amounts of foods. For example, when you enter coffee all you see is a slight flicker of the screen and the prompt is asking for the next item.

After you have entered all your foods (18 maximum/meal) type 'END'. The screen will show all the items you entered with the cursor besides Item 1.

Now you have the choice of changing the name of the food, as long as the name fits between the vertical lines, and is easy for you to remember.

4. If the original name is acceptable, simply press return to go to the next item.

If the original name was long enough to extend beyond the center line, then it will be chopped off at the line. As you go over each item, the item as it is being entered, gets printed to the right of the center line.

When you finish the disk will start spinning and you have your file.

5. If you would like to enter another meal, it can be done in the same way.

Do not worry if some of the foods you entered are not entirely what you wanted. You can re-do the file anytime.

OPTION 6: To return to the master menu.

A Few Helpful Hints

1. Do not press reset during any of the routines, especially when reading from or recording to the diskette. The results can be unpredictable.

2. Always start the program by booting with the MASTER PROGRAMS diskette. Trying to run the programs by themselves can cause problems.
3. Enter your foods regularly. The more frequently you use the program, the easier it will be for you to use it.
4. Enter your weight regularly.
5. DO NOT SELF-PRESCRIBE ANY VITAMINS OR MINERALS ON THE BASIS OF THE RESULTS. THE PROGRAM IS NOT DESIGNED FOR THAT PURPOSE. THERE MAY BE OTHER FACTORS TO CONSIDER, MAKING INGESTION OF CERTAIN VITAMINS AND MINERALS HARMFUL WITHOUT MEDICAL SUPERVISION.

Error Messages

1. WRONG DISKETTE IN DRIVE : Check the diskette in the drive which was last running. In most cases this would happen while exchanging disks during DAYS END. Inserting the proper diskette should fix the problem. If the diskette is the right one and the message persists then see below.

This message could also arise if someone has deleted one of the files, such as ENT700 or the 'CASUAL' file. Do not delete these files manually. The program takes care of it automatically.

2. DRIVE DOOR OPEN OR NO DISK IN DRIVE: Check the drive that was last running. Usually there is no loss of data, and the program resumes when the error has been corrected.

3. UNRESOLVED ERROR CODES:

ONERR GOTO CODE 10: One or the other of the data files has been locked by someone. Turn the computer off. Then boot the system with a different diskette. Insert the master programs diskette into drive. Check the catalog. The only text file (indicated by the letter 't' before the name in the catalog) which should be locked, is ute-qm. All other text files must be unlocked. Check your DOS manual on how to do that.

ONERR GOTO CODE 4: Someone has put a label on the write-protect notch of the master programs diskette. Remove the label. The master programs diskette may not be write-protected.

ONERR GOTO CODE 5: One or the other of the data files has been deleted. If the message arises during the SEE DATA routine, the person whose file has been deleted is easy to identify.

ALWAYS USE THE UTILITIES OPTION TO DELETE ANY FILES. NEVER DO IT OTHERWISE.

There is no easy way to fix the problem if a file has been deleted manually. If the person whose file has been deleted can be identified, he may be able to delete the rest of his files using the utilities option 3 and start all over.

For other codes, see your DOS 3.3 manual, page 114.

Appendix A: Weights and Measures/Abbreviations

The conversion routine incorporated in your program gives you a quick way to convert one measure into another. This works fine for conversion of grams into ounces and pounds and vice versa. It also works fine for liquid measures for conversion of cups into tablespoons and teaspoons etc. A little problem, however, appears when you try to convert a cup of flour for example into pounds. The solid foods when measured in cups and tablespoons, are always imprecise. The conversion routine does take that into account but if exact accuracy is desired, we suggest that you convert manually, using the weights given in Appendix B.

WEIGHTS AND MEASURES

DRY EQUIVALENTS

16	OUNCES (OZ)	=	1	POUND (LB)
453	GRAMS (GM)	=	1	POUND (LB)
3.57	OUNCES	=	100	GRAMS
1	OUNCE (OZ)	=	28.35	GRAMS
1	GRAM	=	1000	MILLIGRAM (MG)
1	MILLIGRAM	=	1000	MICROGRAM (MCG)
1	CUP:			
	FLOUR	=	100	GRAMS (3.57 OUNCES)
	SUGAR	=	200	GRAMS (7.14 OUNCES)
1	SERVING	=		APPROX. 4 OUNCES
1	TABLESPOON:			
	FLOUR	=	8	GRAMS
	SUGAR	=	12	GRAMS
1	TEASPOON DRY	=		APPROX. 4 GRAMS

LIQUID EQUIVALENTS

1	CUP	=	8	FLUID OUNCES
1	CUP	=	16	TABLESPOONS
1	TABLESPOON	=	0.5	FLUID OUNCE

1	TABLESPOON	=	3	TEASPOONS
1	TABLESPOON	=	14	GRAMS
	OIL	=	15	GRAMS
	MILK	=	20	GRAMS
	SYRUP/HONEY	=		
1	TEASPOON	=	5	GRAMS
1	QUART	=	4	CUPS
1	PINT	=	2	CUPS

ABBREVIATIONS

OZ	=	OUNCE	LB	=	POUND
FL.OZ	=	FLUID OUNCE	GM	=	GRAM
MG	=	MILLIGRAM	MOG	=	MICROGRAM
IU	=	INTERNATIONAL UNIT	ENR	=	ENRICHED
CKD	=	COOKED	CAND	=	CANNED
BKD	=	BAKED	BRLD	=	BROILED
FRD	=	FRIED	BRSD	=	BRAISED
W/	=	WITH	W/O	=	WITHOUT
CORND	=	CORNED	SHRED	=	SHREDDED
GRND	=	GROUND			
TRMD	=	TRIMMED OF SEPARABLE FAT	UNTRMD	=	UNTRIMMED
PLN	=	PLAIN	CONC.	=	CONCENTRATED
LN	=	LEAN	GRN	=	GREEN
HVY	=	HEAVY	SYP	=	SYRUP
SWT	=	SWEETENED	UNSW	=	UNSWEETENED
WHOL	=	WHOLE	SKIM	=	SKIMMED
CAL	=	CALORIES	PROT	=	PROTEIN
CARB	=	CARBOHYDRATE	T.FT	=	TOTAL FAT
S.FT	=	SATURATED FATS	U.FT	=	UNSATURATED FATS
CHOL	=	CHOLESTROL	FIB.	=	FIBER
A	=	VITAMIN A	B1	=	THIAMINE
B2	=	RIBOFLAVIN	B6	=	PYRIDOXINE
B12	=	VITAMIN B12	FOLC	=	FOLIC ACID
NIAC	=	NIACIN	PANT	=	PANTOTHENIC ACID
C	=	VITAMIN C	E	=	VITAMIN E
POTS	=	POTASSIUM	CALC	=	CALCIUM
MAG	=	MAGNESIUM	PHOS	=	PHOSPHORUS
SOD	=	SODIUM			

Appendix B: Alphabetic list of Foods

Food Item	Serving	Weight/gms
ALCOHOL 80 PRF-1.5 OZ JIGGER	SERVING	42
ALFALFA SPROUTS-RAW	CUP	100
ALMOND RAW	OUNCE	28
ALMOND MEAL	OUNCE	28
APPLE-RAW MEDIUM	ITEM	180
APPLE-DRIED	CUP	85
APPLE-BROWN BETTY	CUP	215
APPLE-BUTTER	TABLESPOON	17.6
APPLESAUCE-UNSWEETENED	CUP	244
APRICOT-RAW	ITEM	38
APRICOT CAND HVY SYP	CUP	258
APRICOT DRIED	CUP	130
ARTICHOKE BOILD GLOBE	ITEM	100
ASPARAGUS-SPEARS CKL	ITEM	25
ASPARAGUS SPEARS CAND	ITEM	20
AVOCADO- RAW PITTED	ITEM	200
BACON-FRD/BRLD(MEDIUM SLICE)	SLICE	7.5
BACON-CANAD(21 GM SLICE)	SLICE	21
BAGEL-3 INCH DIAM.	ITEM	55
BAMBOO SHOOT	CUP	125
BANANA-AVERAGE	ITEM	150
BEANS BLAK EYED CKD	CUP	165
BEANS-CHICKPEAS(GARBANZOS- DRY)	CUP	200
BEANS CAND W/O PORK	CUP	250
BEANS CAND W/PORK	CUP	250
BEANS GRN SNAP CKD	CUP	125
BEANS LENTIL CKD	CUP	200
BEANS LIMA CKD	CUP	190
BEANS LIMA CAND	CUP	170
BEANS-PINTO (DRY)	CUP	190
BEANS RED KDNY CKD	CUP	185
BEANS RED KDNY CAND	CUP	255
BEANS YELLO WAX CAND	CUP	135
BEANS GRN SNAP CAND	CUP	135
BEANS YELLOW WAX CKD	CUP	125
BEANS SOYBNS CKD	CUP	180
BEANS SOYBNS CAND	CUP	150
BEANS WHITE CKD	CUP	190
BEEF-AND VEGET STEW(LEAN CHUCK)	CUP	245
BEEF CORND HASH W/POTAT	CUP	220
BEEF CORND CKD	OUNCE	28
BEEF DRIED/CHIPPD	OUNCE	28
BEEF-POTPIE BKD(1/3 OF 9 INCH)	SERVING	210
BEEF-GROUND LN CKD(FROM 1 OZ OF RAW)	OUNCE	28
BEEF-GROUND REG CKD(FROM 1 OZ OF RAW)	OUNCE	28
BEEF KIDNEY(5 OZ CUP)	SERVING	140
BEEF TONGUE(2/3 OZ SLICE)	SERVINC	20
BEEF LIVER(3 OZ SLICE)	SERVING	85

BEEF-HEART	OUNCE	28
BEER-(12 FL.OZ.)	ITEM	360
BEER LIGHT (12 OZ)	SERVING	360
BEETS COOKED	CUP	170
BEET -GREENS CKD	CUP	145
BEETS CAND	CUP	170
BISCUITS-2 IN DIAMETER	ITEM	28
BLACKBERRIES-CAND IN HVY SYP	CUP	256
BLACKBERRIES RAW	CUP	144
BLACKBERRIES JUICE	CUP	245
BLUBERRIES-CAND IN HVY SYP	CUP	240
BLUBERRIES FROZN SW	CUP	230
BLUBERRIES RAW	CUP	145
BOYSENBERRIES UNSW	CUP	126
BRAN FLAKES W/RAISN	CUP	50
BRAN FLAKES 40%	CUP	35
BRAZIL NUTS	OUNCE	28
BREAD CORN BREAD(2 IN)	ITEM	45
BREAD CRAKD WHT	SLICE	23
BREAD PMPRNKL	SLICE	32
BREAD WHOL WHT	SLICE	23
BREAD WHITE ENR	SLICE	20
BREAD WHITE ENR TSTD	SLICE	20
BREAD WHOL WHT TSTD	SLICE	19
BREADCRUMBS	CUP	100
BROCCOLI RAW	ITEM	100
BROCCOLI CKD	CUP	155
BRUSSEL SPROUTS CKD	CUP	155
BUNS HMBRGR/HOT DOG	ITEM	40
BUTTER	TABLESPOON	14.2

CHEESE-AM.PROCESSED PASTEURIZED	OUNCE	28
CHEESE BLUE	OUNCE	28
CABBAGE-COMMON RAW SLICED	CUP	70
CABBAGE COMMON CKD	CUP	145
CABBAGE RED RAW	CUP	70
CABBAGE-SAVOY RAW SLICED	CUP	70
CAKE-ANGLE FOOD	SERVING	53
CAKE-COFFEECAKE	SERVING	72
CAKE-DEVIL'S FOOD CUPCAKE	ITEM	35
CAKE-DEVL FD W/CHOC ICING	SERVING	69
CAKE-FRUITCAKE (SLICE)	SERVING	15
CAKE-GINGRBREAD	SERVING	63
CAKE-POUNDCAKE (SLICE)	SERVING	33
CAKE-SHEET W/ICING	SERVING	120
CAKE-SHEET WITHOUT ICING	SERVING	86
CAKE-SPONGECAKE	SERVING	66
CAKE-WHITECAKE	SERVING	71
CAKE YELLO W/CHOC ICNG	SERVING	69
CANDY-CARAMEL	ITEM	5
CANDY-CANDIED CITRON	OUNCE	28
CANTALOUPE	SERVING	100
CARROT-COOKED	CUP	155

CARROT-CANNED	CUP	155
CARROT-GRATED	CUP	110
CARROT-RAW (LARGE)	ITEM	100
CARROT JUICE	CUP	227
CASHEWS(14 LGE/18 MED/26 SML)	OUNCE	28
CAULIFLOWER RAW	CUP	100
CAULIFLOWER-COOKED	CUP	125
CELERY RAW DICD	CUP	120
CELERY COOKED	CUP	150
CHALUPAS (BEAN)	ITEM	
CHARD SWISS (COOKED)	CUP	145
CHEESE BRICK	OUNCE	28
CHEESE BRIE	OUNCE	28
CHEESE-CAMEMBERT	OUNCE	28
CHEESE-AM.CHEDDER	OUNCE	28
CHEESE-AM.CHEDDER GRATED(NOT PACKED)	CUP	113
CHEESE-SPREAD AM.PROCESSED	OUNCE	28
CHEESE COLBY	OUNCE	28
CHEESE-COTTAGE CREAMED	CUP	210
CHEESE-COTTAGE 2% FAT	CUP	226
CHEESE-COTTAGE DRY	CUP	145
CHEESE CREAM	OUNCE	28
CHEESE EDAM	OUNCE	28
CHEESE GJETOST	OUNCE	28
CHEESE GOUDA	OUNCE	28
CHEESE GRUYER	OUNCE	28
CHEESE-LIMBERGER	OUNCE	28
CHEESE MONTEREY	OUNCE	28
CHEESE-MOZZRELLA	OUNCE	28
CHEESE-MOZZRELLA SKIMMED	OUNCE	28
CHEESE-MUENSTER	OUNCE	28
CHEESE-PARMESAN	OUNCE	28
CHEESE-PARMESAN GRATED	TABLESPOON	5
CHEESE PORT DU SALUT	OUNCE	28
CHEESE-PROVOLONE	OUNCE	28
CHEESE-RICOTTA WH.MILK	CUP	246
CHEESE-RICOTTA SKIMMED	CUP	246
CHEESE-ROQUEFORT	OUNCE	28
CHEESE SWISS	OUNCE	28
CHEESE-SWISS PROCESSED	OUNCE	28
CHEESE-SOUFLE CHEDDER	CUP	95
CHEESECAKE STRAWBERRY	SERVING	
CHEESECAKE PLAIN	SERVING	
CHERRIES-SOUR CANNED-HVY SYP	CUP	270
CHERRIES SOUR RAW	CUP	155
CHERRIES-SWEET CANNED HVY SYP	CUP	279
CHERRIES SWEET RAW	CUP	130
CHESTNUTS FRESH	CUP	160
CHESTNUTS DRY	CUP	100
CHICKEN A LA KING	CUP	245
CHICKEN-FRIED-BREAST	ITEM	79
CHICKEN-CHOWMEIN CANNED	CUP	250
CHICKEN-CHOWMEIN HOME RECIPE	CUP	250
CHICKEN-FRIED-DRUMSTICK	ITEM	56

CHICKEN-W/NOODLES HOME RECIPE	CUP	240
CHICKEN POTPIE(1/3 OF 9 IN)	ITEM	232
CHICKEN-HALF BROILER-BRLD (RAW WT.1.75 LB)	ITEM	294
CHICKEN-CAND BONELES	OUNCE	28
CHICKEN-FRIED THIGH	ITEM	65
CHICKEN-FRIED WING	ITEM	50
CHICKEN-ROASTED LIGHT MEAT 5X2X.25 IN	SERVING	50
CHICKEN-ROASTED DARK MEAT 4X2X.25 IN.	SERVING	40
CHICKEN-STEWED LIGHT MEAT 5X2X.25 IN.	SERVING	50
CHICKEN-STEWED DARK MEAT 4X2X.25 IN.	SERVING	40
CHICKEN-FRICASSEE	CUP	240
CHILI CON CARNE-W/BEANS	CUP	255
CHIVES CHPD RAW	TABLESPOON	10
CHOCOLATE BITTER	OUNCE	28
CHOCOLATE BTTRSWEET	OUNCE	28
CHOCOLATE-FUDGE(1 INCH CUBE)	ITEM	21
CHOCOLATE MILK BAR	OUNCE	28
CHOCOLATE SEM SWT	OUNCE	28
CHOCOLATE SYRUP	TABLESPOON	19
CHOP SUEY W/BEEF AND PORK	CUP	250
CLAMS-CAND SOLID+LIQ	OUNCE	28
CLAMS-RAW 4 LARGE OR 5 SMALL	SERVING	100
COCONUT FRESH SHRED	CUP	80
COCONUT DRIED SHRED	CUP	62
COCONUT MILK(COCONUT MSHD W/WATR)	CUP	240
COCONUT WATER FROM COCONUT	CUP	240
COFFEE	CUP	245
COKE	ITEM	370
COLLARD CKD	CUP	145
COOKIES-BRWNY W/NUTS COMERCIAL	ITEM	20
COOKIES-CHOC CHP(COMM 4 CK/2.25INCH DIAM.)	SERVING	42
COOKIES CHOC CHP(HOME 4 CK)	SERVING	40
COOKIES-FIG BAR(4 CK/ 1.5 X 1.5 INCH)	SERVING	56
COOKIES FRZN W/ICNG	ITEM	25
COOKIES GNGRSNAP(4CK)	SERVING	28
COOKIES-MACARN(2 CK/ 2.8 INCH DIAM)	SERVING	38
COOKIES-OATML W/RAISINS (4 CKS/2.5 INCH)	SERVING	52
COOKIES-PLAIN(4 CK/ 2.5 INCH DIAM)	SERVING	48
COOKIES-SANDWCH(4 CK/1.75 INCH DIAM)	SERVING	40
COOKIES-VANILLA WAF(10 CK/ 1.75 INCH)	SERVING	40
CORN-EAR (WEIGHT INCLUDES COB)	ITEM	140
CORN-CANNED CREAMED	CUP	256
CORN-COOKED	CUP	165
CORN FLAKES PLN	CUP	25
CORN-FLAKES SUGAR COATED	CUP	40
CORN-GRITS ENR (HOMINY)	CUP	245
CORN-SHREDDED	CUP	25
CORN-CORNMEAL DEGRMD ENR COOKED	CUP	238
CORN-CORNMEAL WHOLE GROUND DRY	CUP	118
CORN PUFFED PLN	CUP	20
CRAB CANNED	OUNCE	28
CRABAPPLE	ITEM	100
CRAB STEAMED	OUNCE	28
CRAB-IMPERIAL	OUNCE	28

CRACKERS AK MAK/WH WT	ITEM	7
CRACKERS GRAHAM	ITEM	14
CRACKERS RYKRISP	ITEM	12.5
CRACKERS-SALTINES (4 CRACKERS)	SERVING	11
CRACKERS SODA	ITEM	2.8
CRACKERS SOUP/OYSTER	ITEM	0.75
CRACKERS ZWEIBK	ITEM	7
CRANBERRY SAUCE	CUP	277
CRANBERRY CANNED	CUP	277
CRANBERRY RAW	CUP	100
CREAM COFFEE	TABLESPOON	15
CREAM HALF.HALF	CUP	242
CREAM SOUR	TABLESPOON	14
CREAM WHIPPING LT	TABLESPOON	15
CREAM WHIPPING HVY	TABLESPOON	15
CREAMER LIQUID IMIT	TABLESPOON	15
CREAMER POWDER	TEASPOON	5
CUCUMBER	SERVING	28
CUPCAKE-W/CHOC.ICING	ITEM	36
CUPCAKE W/O ICING	ITEM	25
CURRANT BLACK	OUNCE	28
CURRANT-RED OR WHITE RAW	CUP	133
CUSTARD- BAKED	CUP	265
DANDELION GREENS COOKED	CUP	105
DANDELION GREENS-RAW	OUNCE	28
DATES-PITTED	ITEM	10
DEER-VENISON-READY TO COOK	POUND	450
DONUTS	ITEM	32
DRESSING-BLU CHEESE/ROQUEFORT (REG)	TABLESPOON	15
DRESSING-BLU CHEESE/ROQFUEFORT (LOW CAL)	TABLESPOON	16
DRESSING-FRENCH (REG)	TABLESPOON	16
DRESSING-FRENCH (LOW CAL.)	TABLESPOON	16
DRESSING-ITALIAN (REG)	TABLESPOON	15
DRESSING-THOUSAND ISLAND (REG)	TABLESPOON	16
DRESSING-THOUSAND ISLAND (LOW CAL)	TABLESPOON	15
DRESSING-GREEN GODDESS	TABLESPOON	15
DRESSING RUSSIAN	TABLESPOON	15
DRESSING CAESAR	TABLESPOON	15
DUCK-READY TO COOK	POUND	450
DUMPLINGS	ITEM	

EGG DRIED WHOL	TABLESPOON	5
EGG WHITE (RAW LARGE)	ITEM	33
EGG YOLK (RAW LARGE)	ITEM	17
EGG-BOILD (LARGE)	ITEM	57
EGG-FRIED (LARGE)	ITEM	46
EGG-OMELET OR SCRAMBLED	ITEM	64
EGG-POACHED (LARGE)	ITEM	50
EGG-RAW (MEDIUM)	ITEM	50
EGG-RAW (LARGE)	ITEM	57
EGGNOG	CUP	254
EGGPLANT-COOKED	CUP	200
ELDERBERRIES-RAW	OUNCE	28

FARINA ENR. COOKED	CUP	245
FIGS-CANNED IN HVY SYP	CUP	259
FIGS DRIED	ITEM	20
FIGS-RAW LARGE	ITEM	50
FISH-CKD-BREADED STICKS (4X1X.5 IN.=1 OZ.)	OUNCE	28
FISH-CKD-ANCHOVY (CANNED 3 FILLETS)	SERVING	12
FISH-RAW CATFISH	POUND	450
FISH-RAW FLOUNDER	POUND	450
FISH-RAW-HALIBUT	POUND	450
FISH-RAW-HERRING FRESH	POUND	450
FISH-RAW-MACKEREL FRESH	POUND	450
FISH-RAW SALMON FRESH	POUND	450
FISH-PINK SALMON CANNED	CUP	210
FISH-RAW-SNAPPER	POUND	450
FISH-RAW TROUT	POUND	450
FISH-CKD-HADDOCK-BREADED FRIED	OUNCE	28
FISH-CKD-FLOUNDER-BAKED WITH MARGARINE	OUNCE	28
FISH-HERRING-PICKLED	OUNCE	28
FISH-HERRING-CANNED	OUNCE	28
FISH-CKD-PERCH-FRIED	OUNCE	28
FISH-CKD-MACKEREL-BROILED	OUNCE	28
FISH-CKD HALIBUT-BROILED	OUNCE	29
FLOUR-SOY FULL FAT	CUP	72
FLOUR-SOY LOW FAT	CUP	100
FLOUR-SOY DEFATTED	CUP	138
FLOUR POTATO	CUP	110
FLOUR-PEANUT DEFATTED	CUP	60
FLOUR-PASTRY WHEAT SIFTED	CUP	100
FLOUR CORN	CUP	117
FLOUR-BUCKWHEAT DARK SIFTED	CUP	100
FLOUR-BUCKWHEAT LIGHT SIFTED	CUP	100
FLOUR-RYE DARK SIFTED	CUP	128
FLOUR-RYE LIGHT SIFTED	CUP	80
FLOUR-RICE GRANULATED	CUP	125
FLOUR-ALL PURP.SIFTED ENRICHED	CUP	110
FLOUR-WH.WHEAT STIRRED	CUP	120
FRANKFURTER-LARGE(5X.9 INCH)	ITEM	57
FRANKFURTER-MED(1.6 OZ OR 5X.7 INCH)	ITEM	45
FROG LEGS (4 LARGE)	SERVING	100
FRUIT COCKTAIL	CUP	255
FUDGE(CHOC 1 INCH CUBE)	ITEM	21
GOOSEBERRIES RAW	CUP	150
GOOSEBERRIES-CANNED IN HVY SYP	CUP	200
GRANOLA	CUP	85
GRAPEFRUIT-RAW (1/2 FRUIT)	SERVING	100
GRAPEFRUIT-CANNED IN SYP	CUP	254
GRAPES-AMERICAN (SLIP SKIN)	CUP	153
GRAPES-EUROPEAN (ADHERENT SKIN)	CUP	160
GRAPES-THOMPSON CANNED SYP	CUP	256
GRAVY(W/WATER)	CUP	
GUACAMOLE	CUP	
GUAVA-RAW	ITEM	100
GUMDROPS	OUNCE	28

HADDOCK BREADED FRIED	OUNCE	28
HAM CANNED	OUNCE	28
HAM-FRESH PICNIC TRIMMED 2.5X2.5X.25 IN.	SERVING	85
HAM-CURED BAKED TRIMMED 4 X 2.	SERVING	85
HAM-CURED PICNIC TRIMMED 2.5X2.5X.25 IN.	SERVING	85
HAM-FRESH BAKED UNTRIMMED 4X2.25X.25	SERVING	85
HAM-FRESH BAKED TRIMMED 4X2.3X.25 IN	SERVING	85
HAM-FRESH PICNIC UNTRIMMED 2.5X2.5X.25 IN.	SERVING	85
HAM-CURED BAKED UNTRIMMED 4X2.25X.25 IN.	SERVING	85
HAM-CURED PICNIC UNTRIMMED 2.5X2.5X.25 IN.	SERVING	85
HAM-DEVEILED	TABLESPOON	14
HAM-CROQUETTES 1X3 INCH	ITEM	65
HAMBURGER	ITEM	
HICKORY NUTS(15 NUTS)	SERVING	15
HONEY	TABLESPOON	21
HONEYDEW- 2 INCH WIDE SLICE	SERVING	150
HOT DOG	ITEM	
HUSH PUPPIES	ITEM	
ICE CREAM- HARD	CUP	133
ICE MILK- HARD	CUP	131
JAM	TABLESPOON	20
JELLY	TABLESPOON	20
JUICE CRANBURY COCKTAIL	CUP	253
JUICE GRAPE	CUP	253
JUICE-GRAPEFRUIT UNSWEETENED	CUP	250
JUICE-GRAPEFRUIT SWEETENED	CUP	250
JUICE PINEAPPLE	CUP	250
JUICE-PRUNE UNSWEETENED	CUP	256
JUICE RASPBURY	CUP	120
JUICE APPLE	CUP	248
JUICE APRICOT	CUP	251
JUICE-ORANGE UNSWEETENED	CUP	248
JUICE-GRAPE DRINK(CANNED)	CUP	250
KALE COOKED	CUP	110
KOHLRABI COOKED	CUP	165
KUMQUATS	ITEM	20
LAMB CHOP(2 OZ SERV)	SERVING	57
LAMB LEG(2.5 OZ)	SERVING	71
LAMB SHOULDR(2.3 OZ)	SERVING	64
LAMB LIVER	OUNCE	28
LARD	TABLESPOON	13
LEEK	ITEM	33
LEMON	ITEM	110
LEMONADE-FROZEN CONC.(DILUTED)	CUP	248
LETTUCE-BOSTON (5 INCH HEAD)	ITEM	220

LETTUCE-LOOSELEAF(ROMAINE OR COS-SHREDDED)	CUP	55
LIME- SMALL	ITEM	80
LIVER PATE	TABLESPOON	13
LIVER BEEF(3 OZ SLICE)	SERVING	85
LIVER LAMB	SLICE	28
LIVERWURST(1 OZ)	SLICE	28
LOBSTER	POUND	450
LOGANBERRIES- RAW	CUP	144
LOQUAT	ITEM	16
LYCHEE RAW	ITEM	15
LYCHEE DRIED	OUNCE	28
MACARONI COOKED	CUP	140
MACARONI+CHEESE	SERVING	
MACADAMIA NUTS(6 NUTS)	SERVING	15
MANGO	ITEM	300
MARGARINE REGULAR(14GM/TBS)	TABLESPOON	14.2
MARGARINE-WHIPPED (9.4 GMS/TBS)	TABLESPOON	9.4
MARSHMALLOW	OUNCE	28
MAYONNAISE	TABLESPOON	14
MEAT LOAF	SERVING	
MEAT TACO	ITEM	
MEAT POTTED(BF.CHIC.TURK)CND	OUNCE	28
MELON-CASABA (1/10TH OF AVERAGE FRUIT)	SERVING	245
MELON-HONEYDEW (2 INCH WIDE SLICE)	SERVING	150
MILK-SHAKE(10.6 OZ)	SERVING	300
MILK-BUTTERMILK	CUP	245
MILK-CHOC MILK 1 % FAT	CUP	250
MILK-CHOC MILK 2 % FAT	CUP	250
MILK-CHOC MILK REG.	CUP	250
MILK-CANNED CONDENSED SWEETENED	FLUID OUNCE	38.2
MILK-DRIED-NON FAT.INSTANT	SERVING	91
MILK-DRIED WHOLE INSTANT	SERVING	70
MILK-CANNED EVAP.SKIM.UNSW.	CUP	255
MILK-CANNED EVAP.WHOLE UNSW.	CUP	250
MILK FLUID-LOW FAT (2%)	FLUID OUNCE	28
MILK-MALTED	CUP	265
MILK-FLUID SKIM	FLUID OUNCE	28
MILK-FLUID WHOLE	FLUID OUNCE	28
MINT PATTY	ITEM	11
MUFFIN-ENGLISH (2.5 OZ)	ITEM	71
MUFFIN BRAN	ITEM	40
MUFFIN CORNMEAL	ITEM	45
MUFFIN PLAIN	ITEM	40
MUFFIN-BLUBERRY(2.5 X 1.5 INCH)	ITEM	40
MUFFIN-BKD FROM MIX-EGG-MLK(2.5x1.5 IN)	ITEM	40
MUFFIN CORNBRED BKD FROM MIX-EGG-MLK(2 OZ)	ITEM	55
MUSHROOM RAW	CUP	70
MUSHROOM-CANNED	CUP	270
MUSHROOM-SAUTEED(4 MEDIUM)	ITEM	70
MUSTARD	TABLESPOON	15

NECTARINE	ITEM	150
NOODLES CKD	CUP	160
NUTS ALMOND-RAW	OUNCE	28
NUTS BRAZIL	OUNCE	28
NUTS CASHEWS	OUNCE	28
NUTS CHESTNUTS-FRESH	CUP	160
NUTS CHESTNUTS-DRY	CUP	100
NUTS COCONUT-FRESH SHREDDED	CUP	80
NUTS COCONUT-DRIED SHREDDED	CUP	62
NUTS HAZELNUTS (FILBERTS)	OUNCE	28
NUTS MACADAMIA (6 NUTS)	SERVING	15
NUTS PEANUTS-ROASTED	OUNCE	28
NUTS PECANS	OUNCE	28
NUTS PISTACHIO (30 NUTS)	SERVING	15
NUTS WALNUTS-CHOPPED	CUP	125
NUTS WALNUTS-ENGLISH HALVES	CUP	100
NUTS HICKORY (15 NUTS)	SERVING	15
NUTS PINE NUTS	OUNCE	28

OATES PUFFED	CUP	25
OATMEAL- ROLLED OATS COOKED	CUP	240
OCEAN PERCH-RAW	POUND	453
OIL COD LIVER	TABLESPOON	14
OIL CORN	TABLESPOON	14
OIL COTTONSEED	TABLESPOON	14
OIL OLIVE	TABLESPOON	14
OIL PEANUT	TABLESPOON	14
OIL SAFFLOWER	TABLESPOON	14
OIL SOYBEAN	TABLESPOON	14
OIL SESAME	TABLESPOON	14
OIL SUNFLOWER	TABLESPOON	14
OIL WHEATGERM	TABLESPOON	14
OKRA COOKED	CUP	160
OLIVE-GREEN (1 MEDIUM)	ITEM	6.5
OLIVE-RIPE (1 LARGE)	ITEM	10
ONION-RAW	OUNCE	28
ONION-COOKED	OUNCE	28
ONION SOUP	CUP	240
ONION SOUP(DRY PACK/WATER)	CUP	240
ORANGE- AVERAGE	ITEM	180
OYSTERS-RAW(16/LB)	ITEM	28
OYSTERS-STEW 6 MEDIUM OYSTERS/CUP	CUP	245

PANCAKE PLAIN	ITEM	27
PANCAKE BUCKWHEAT (4 INCH)	ITEM	27
PANCAKE WHOLE WHEAT (4 INCH)	ITEM	45
PAPAYA	ITEM	300
PARSLEY RAW(1 OZ=1/2CUP)	OUNCE	28
PARSNIP COOKED	CUP	155
PASSION FRUIT(AVERAGE, FRUIT=3.5 OZ)	OUNCE	28

PASTA WHOLE WHEAT DRY	OUNCE	28
PEACH FRUIT	ITEM	115
PEACH-CANNED HVY SYP	CUP	256
PEACH DRIED	CUP	160
PEANUTS ROASTED	OUNCE	28
PEANUTS BUTTER	TABLESPOON	15
PEANUT BRITTLE	OUNCE	28
PEAR FRUIT	ITEM	200
PEAR-CANNED IN HVY SYP	CUP	255
PEAR DRIED	CUP	180
PEAS-COOKED	CUP	160
PEAS-CANNED DRAINED	CUP	170
PEAS-SPLIT COOKED	CUP	200
PEAS-SOUP SPLIT PEA	CUP	245
PECANS	OUNCE	28
PEPPER STUFFED	ITEM	
PEPPER SLICED RAW	CUP	80
PERSIMMON JAPANESE	ITEM	100
PERSIMMON AMERICAN	ITEM	100
PIE BOSTON CRM	SERVING	69
PIE-APPLE (1/7TH OF PIE)	SERVING	135
PIE-BANANA CREAM (1/7TH OF PIE)	SERVING	130
PIE-BLUBERRY (1/7TH OF PIE)	SERVING	135
PIE-CHERRY (1/7TH OF PIE)	SERVING	135
PIE-CUSTARD (1/7TH OF PIE)	SERVING	130
PIE-LEMON MERINGUE (1/7TH OF PIE)	SERVING	120
PIE-MINCED (1/7TH OF PIE)	SERVING	135
PIE-PEACH (1/7TH OF PIE)	SERVING	135
PIE-PECAN (1/7TH OF PIE)	SERVING	118
PIE-PUMPKIN (1/7TH OF PIE)	SERVING	130
PINEAPPLE-CANNED IN SYP	CUP	255
PINEAPPLE DICED	CUP	155
PINE NUTS	OUNCE	28
PISTACHIO(30 NUTS)	SERVING	15
PLUM DAMSON	ITEM	50
PLUM PRUNE	ITEM	33
POMEGRANATE	ITEM	275
POPCORN	CUP	14
POPOVERS- 2.5 INCH DIAMETER	ITEM	40
PORK LOIN CHOPS BKD/RSTD TRIMMED	SERVING	85
PORK LOIN CHOPS BKD/RSTD UNTRMD	SERVING	85
PORK LOIN CHOPS-BRLD TRIMD (2 OZ)	SERVING	56
PORK BOSTON BUTT FRSH RSTD TRMD	SERVING	85
PORK SPARERIBS BRSD(6.3 OZ)	SERVING	180
PORK BOSTON BUTT CURED BKD TRMD	SERVING	85
PORK LOIN CHOPS-BRLD UNTRMD (3 OZ)	SERVING	78
PORK BOSTON BUTT FRSH RSTD UNTRMD	SERVING	85
POTATO BKD IN SKIN LGE	ITEM	202
POTATO-FLAKES DEHYDRATED(PREPARED)	CUP	210
POTATO-FRENCH FRIES (10 PCS)	SERVING	50
POTATO-HASH BROWN	CUP	155
POTATO-MASHED FROM RAW W/MILK	CUP	210

POTATO-SCALLOPED W/O CHEESE	CUP	245
POTATO-SCALLOPED W/CHEESE	CUP	245
POTATO CHIPS(12CHPS=1 OZ)	OUNCE	28
PRETZEL THIN	ITEM	6
PRETZEL TWISTD	ITEM	16
PRUNE-COOKED	CUP	250
PRUNE DRIED	CUP	185
PRUNE JUICE	CUP	256
PUDDING-CHOCOLATE CORNSTARCH	CUP	260
PUDDING-RICE W/RAISINS	CUP	265
PUDDING-BREAD W/RAISINS	CUP	265
PUDDING TAPIOCA	CUP	165
PUMPKIN-CANNED	CUP	245
PUMPKIN SEEDS	CUP	140
PUMPKIN PIE	SERVING	130
RAISIN-PACKED	CUP	165
RASPBERRIES BLACK	CUP	134
RASPBERRIES RED	CUP	123
RASPBERRIES-FROZEN SWEETENED(UNTHAWED)	CUP	250
RHUBARB-DICED RAW	CUP	122
RICE-BROWN COOKED W/SALT	CUP	150
RICE-INSTANT ENRICHED CKD W/SALT	CUP	165
RICE-PARBOILD ENRICHED CKD W/SALT	CUP	175
RICE-WHITE CKD W/SLT	CUP	205
RICE WILD RAW	CUP	160
RICE WHITE ENR CKD W/SLT	CUP	205
RICE-PUFFED FORTIFIED W/O SALT AND SUGAR	CUP	15
RICE-PUFFED W/SUGAR ENR	CUP	28
ROAST CHUCK TRMD(3 OZ SERVING)	SERVING	85
ROAST RIB TRMD(3 OZ SERVING)	SERVING	85
ROAST RUMP TRMD(3 OZ SERVING)	SERVING	85
ROAST CHUCK UNTRIMMED (3 OZ SERVING)	SERVING	85
ROAST RIB UNTRIMMED(3 OZ SERVING)	SERVING	85
ROAST RUMP UNTRIMMED (3 OZ SERVING)	SERVING	85
ROLLS DANISH	ITEM	42
ROLLS DINNER	ITEM	38
ROLLS HARD	ITEM	50
ROLLS-WHOLE WHEAT	ITEM	90
ROLLS HOMADE(MLK+ENR FLR 13/LB)	ITEM	35
ROLLS PLAIN SOFT	ITEM	28
ROLLS-BRN+SRV(BKD) 2.5 INCH DIAM	ITEM	28
ROLLS-BKD FRM ROLL DO(PRKRHS-2.5X2 INCH)	ITEM	28
ROLLS-BKD FRM MIX+WATR 2.5X2 INCH	ITEM	35
ROLLS SUBMARIN(11.5X3X2.5IN)	ITEM	135
RYE WAFERS(10 WAF 3.5X2X.25 EACH)	SERVING	65
RABBIT-READY TO COOK	POUND	450

SALAMI-CKD (4.5 INCH DIAM)	OUNCE	28
SALAMI DRY(4 OZ OR 12 SLC)	SERVING	113
SALAD CHICKEN	CUP	
SALAD POTATO	SERVING	
SALAD FRUIT(APPL-ORANG-PINAP-BANA)	SERVING	
SALAD LETTUCE / TOMATO	SERVING	
SALAD CHEF	SERVING	
SALAD TUNA	CUP	205
SALAD COLE SLAW	CUP	
SANDWICH EGG SALAD	ITEM	
SANDWICH SLOPPY JOE	ITEM	
SANDWICH CHICKEN SALAD	ITEM	
SANDWICH TUNA SALAD	ITEM	
SANDWICH HAM(1.5 OZ HAM)	ITEM	
SANDWICH CORND BF(1.5 OZ)	ITEM	
SANDWICH PEANUT BUTR(2 TBS)	ITEM	
SANDWICH PEANUT BUTR+JELL(2 TBS)	ITEM	
SANDWICH SALAMI(1 OZ)	ITEM	
SANDWICH BOLOGNA(1 OZ)	ITEM	
SANDWICH BACON LETUC+TOMAT(4 SL BAC)	ITEM	
SANDWICH CHEESE(1 SL)	ITEM	
SANDWICH SUBMARINE	ITEM	
SARDINES- CANNED IN OIL DRAINED	OUNCE	28
SAUCE BBQ	TABLESPOON	15
SAUCE CHILI	TABLESPOON	17
SAUCE-HOLLANDAISE	TABLESPOON	12.5
SAUCE SOY	TABLESPOON	18
SAUCE TARTAR	TABLESPOON	14
SAUCE-WORCESTERSHIRE	TABLESPOON	15
SAUCE WHITE	TABLESPOON	16
SAURKRAUT- CANNED	CUP	235
SAUSAGE-BOLOGNA(4.5 INCH DIAM)	SLICE	28
SAUSAGE BRNSCHWGR(1 OZ SL)	SLICE	28
SAUSAGE-BRN+SRV(2.5X2X.5)	SLICE	28
SAUSAGE-CERVELAT(1 OZ)	SLICE	28
SAUSAGE HEAD CHEES(1 OZ)	SLICE	28
SAUSAGE-KNOCKWRST(1 OZ)	OUNCE	28
SAUSAGE-LIVERWURST NOT SMOKED (1 OZ)	OUNCE	28
SAUSAGE-POLISH STYLE (1 OZ)	OUNCE	28
SAUSAGE-PORK LNK(FROM 1 OZ RAW)	ITEM	28
SAUSAGE-VIENNA(16 GM/SAUSAGE)	ITEM	16
SCALLOPS FRZ BRED/FRD	ITEM	15
SEEDS-SESAME	OUNCE	28
SEEDS-SUNFLOWER	OUNCE	28
SESAME SEEDS	OUNCE	28
SHERBERT	CUP	193
SHORTENING-VEGETABLE	TABLESPOON	12.5
SHRIMP-CANNED	CUP	128
SHRIMP-FRENCH FRIED	OUNCE	28
SODA FRT FLAV/TOM COLLINS MIX(12 FL OZ)	SERVING	372
SOUP ASPARAG CR	CUP	240
SOUP BEAN W/PORK	CUP	250

SOUP BEEF CONSOM	CUP	240
SOUP BF.NOOD	CUP	245
SOUP CELERY CREAM	CUP	240
SOUP CHICK CONSM	CUP	240
SOUP CHICK CREAM W/WATER	CUP	240
SOUP CHICK CREAM W/MILK	CUP	245
SOUP-CHICK GUMBO	CUP	240
SOUP CHICK NOOD(FRM PACKT)	CUP	240
SOUP CHICK NOODLE	CUP	240
SOUP CHICK NOOD W/RICE	CUP	240
SOUP CHILI BEEF	CUP	250
SOUP CLAM CHDR(MANHAT)	CUP	245
SOUP CLAM CHDR(NEW ENG)	CUP	240
SOUP MINISTRN	CUP	245
SOUP MUSHRM CR W/WATR	CUP	240
SOUP MUSHRM CR W/MLK	CUP	245
SOUP ONION	CUP	240
SOUP ONION(DRY PACK)W/WATR	CUP	240
SOUP-POTATO CREAM	CUP	260
SOUP-TOMATO W/WATER	CUP	245
SOUP-TOMATO W/MILK	CUP	250
SOUP TOMATO VEG NOOD	CUP	240
SOUP-TURKEY NOODLE	CUP	240
SOUP-VEGETABLE BEEF	CUP	245
SOUP VEGETARIAN	CUP	245
SOUP OYSTER STEW	CUP	240
SOUP SPLIT PEA	CUP	245
SOUR CREAM-CULTURED	TABLESPOON	16
SOUR DRESSING-IMITATION W/NON FAT DRY MLK	TABLESPOON	12
SOYBEANS-COOKED	CUP	180
SOYBEANS-CANNED DRAINED	CUP	150
SPAGHETTI W/TOMAT SAUC+CHEES(HOME)	CUP	250
SPAGHETTI-W/TOMAT SAUC+CHEES CANNED	CUP	250
SPAGHETTI MEAT BALLS W/TOMAT SC(HOME)	CUP	248
SPAGHETTI MEAT BALLS W/TOMAT SC CND	CUP	250
SPINACH-COOKED	CUP	180
SPINACH-CANNED DRAINED	CUP	205
SPINACH-NEW ZEALAND COOKED	CUP	180
SPINACH RAW	CUP	55
SQUASH SUMMER CKD	CUP	180
SQUASH-WINTER BAKED	CUP	205
STEAK-PRTRHOUS TRIMD(FROM 1 LB RAW)	SERVING	172
STEAK-T-BONE TRMD(FROM 1 LB RAW)	SERVING	165
STEAK-SIRLOIN TRMD(FROM 1 LB RAW)	SERVING	203
STEAK-ROUND TRMD(FROM 1 LB RAW)	SERVING	260
STEAK-CLUB TRMD(FROM 1 LB RAW)	SERVING	161
STEAK-FLANK 100%LEAN(FROM 1 LB RAW)	SERVING	304
STEAK-PORTERHOUSE-UNTRMD(FROM 1 LB RAW)	SERVING	301
STEAK-T-BONE UNTRMD (FROM 1 LB RAW)	SERVING	295
STEAK-SIRLOIN UNTRMD (FROM 1 LB RAW)	SERVING	308
STRAWBERRY FRUIT	CUP	150
STRAWBERRY-FROZEN SWEETENED UNTHAWED	CUP	255

STUFFING-BREAD
 STUFFING-CORNBREAD
 SUGAR-BROWN
 SUGAR-GRANULATED (TEASPOON)
 SUGAR-GRANULATED (TABLESPOON)
 SUGAR-GRANULATED (2 CUBES)
 SUGAR-GRANULATED (PACKET)
 SUGAR-GRANULATED (CUP)
 SUGAR POWDERED
 SUNFLOWER SEEDS
 SWEETBREAD(3 OZ SRV)-BEEF
 SWEET POTATO BAKD(146 GM)
 SWEET POTATO-CANNED
 SWEET POTATO CANDIED(2X4IN)
 SYRUP MAPLE
 SYRUP CORN

SERVING
 SERVING
 CUP 220
 TEASPOON 4
 TABLESPOON 12
 SERVING 5
 SERVING 6
 CUP 200
 CUP 120
 OUNCE 28
 SERVING 85
 ITEM 146
 CUP 200
 ITEM 100
 TABLESPOON 20
 TABLESPOON 20

TACO (MEAT)
 TANGERINE- MEDIUM
 TAPIOCA DRY
 TEA CLEAR
 TOAST-WHITE ENR
 TOAST WHOL WHEAT
 TOAST FRENCH
 TOMATO CATSUP
 TOMATO-CANNED
 TOMATO JUICE
 TOMATO RAW
 TORTILLA(6 IN)-YELLOW CORN
 TUNA-CAND IN OIL(DRAINED)
 TUNA-CANNED IN WATER
 TUNA-TUNA SALAD
 TUNA- CROQUETTES
 TURKEY DARK MEAT
 TURKEY-LIGHT MEAT
 TURNIP GREENS CKD
 TURNIP-COOKED

ITEM
 ITEM 116
 CUP 152
 CUP 240
 SLICE 20
 SLICE 19
 SLICE
 TABLESPOON 15
 CUP 241
 CUP 243
 ITEM 150
 ITEM 30
 CUP 160
 CUP 200
 CUP 205
 ITEM
 OUNCE 28
 OUNCE 28
 CUP 145
 CUP 155

VEAL-CUTLETS BRAISED OR BROILED
 VEAL RIB ROAST
 VEGETABLE JUICE COCKTAIL
 VEGETABLE SHORTENING
 VINEGAR

OUNCE 28
 OUNCE 28
 CUP 242
 TABLESPOON 12.5
 TABLESPOON 15

WAFFLES- PLAIN ENR 5.5 INCH DIAM
 WALNUTS-CHOPPED BLACK RAW
 WALNUTS-ENGLISH HALVES RAW
 WATERMELON BALLS
 WATERMELON SLICE(6X1.5IN)
 WHEAT WHT GRM TSTD

ITEM 75
 CUP 125
 CUP 100
 CUP 100
 SERVING 600
 TABLESPOON 6

WHEAT-FLAKES	CUP	30
WHEAT PUFFED PLAIN	CUP	15
WHEAT-PUFFED SWEETENED	CUP	38
WHEAT SHREDED	CUP	25
WHIPPED TOPPING IMIT FRZ	TABLESPOON	4
WHIPPED TOPPING REAL	TABLESPOON	4
WINE-DESSERT (3.5 FL OZ)	SERVING	103
WINE-TABLE (3.5 FL OZ)	SERVING	102
YAMS CKD W/SKIN	CUP	200
YEAST BREWERS	TABLESPOON	8
YOGURT WHOL MLK	CUP	227
YOGURT SKIM PLN	CUP	227
YOGURT LOW FAT PLN	CUP	227
YOGURT-LOW FAT FRUIT 9GM PROTEIN	CUP	227
YOGURT LOW FAT FRUIT 11GM PROT	CUP	227

SUPPLEMENTARY LIST

CHEERIOS	CUP	25
GRAPE NUTS	1/4CUP SERV.	28
RICE KRISPIES	CUP	28
SPECIAL K	CUP	16
WHEATIES	CUP	28
WHEAT CHEX	1/2CUP	28
CREAM OF WHEAT	CUP	38
MALT-O-MEAL	3/4CUP	28
PIZZA	SERVING	100

Appendix C: Bibliography

BIBLIOGRAPHY

The food composition data has been obtained from the current literature. Every effort has been made to insure accuracy. A few things, however, must be kept in mind.

1. Not all foods have been adequately tested for all the components. When writing a book, it is easy to indicate this in the food value tables. However, the computers do not recognize 'may be' answers. The only choice we had was to assign a '0' value to all components which have not yet been tested.

2. Similarly the literature often shows an element to be present in 'trace' amounts. since the computer only accepts figures, we could not assign an arbitrary value to such an element. All 'trace' values were, therefore, entered as zero. All other values, no matter how small, were entered as such (within limits of the rounding errors)

3. Often a discrepancy was found in the published values of a certain food element. Attempt was then made to verify the value from a different source. A certain degree of subjective judgement had to be used in a few instances.

1. NUTRITIVE VALUE OF AMERICAN FOODS; Catherine Adams U.S. Dept. of Agriculture November 1975

2. NUTRITIVE VALUE OF FOODS; U.S. Dept. of Agriculture September 1978

3. COMPOSITION OF FOODS; Agriculture handbook no 8 U.S. Dept. of Agriculture December 1963

4. NUTRITION ALMANAC; John D. Kirschmann, Nutrition Search, Inc. McGraw-Hill Book Company 1979

5. FOOD VALUES OF PORTIONS COMMONLY USED; Bowes & Church J.B. Lippincott Company 1975.

Appendix D: Setting Up the Apple II System

This appendix includes a list of the equipment you will need to use the Diet Analysis Program on your Apple II. You do not need to read all the manuals but they should be on hand to answer questions that may arise in operating the equipment (eg. how to boot the diskette).

In order to be able to provide Special Delivery Software at a lower cost the master program diskette has been copy protected. The Composition diskette has not been copy protected and we suggest you make a backup copy of this diskette and put it in a safe place. This software requires an Autostart ROM, and that the Autostart ROM is the only monitor ROM in the system. Thus, this software will not run if there is a non-Autostart ROM on either the motherboard or on any firmware card located in slot #0.

The Diet Analysis program is written in Applesoft BASIC. To use it you will need the following equipment.

- an Apple II Plus with 48K bytes of RAM; or
- an Apple II with 48K bytes RAM and an Applesoft firmware card; or
- an Apple II with the Language System.

Plus:

- an Apple Disk II with Controller (16 sector PROMs);
- a video monitor or television.

For reference you should have on hand a copy of the following manuals:

- This Manual;
- Apple II BASIC Programming Manual (Setting up the Apple II);
- DOS Manual (How to boot the diskettes).



DIET ANALYSIS

C2H0007 BACKUP

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